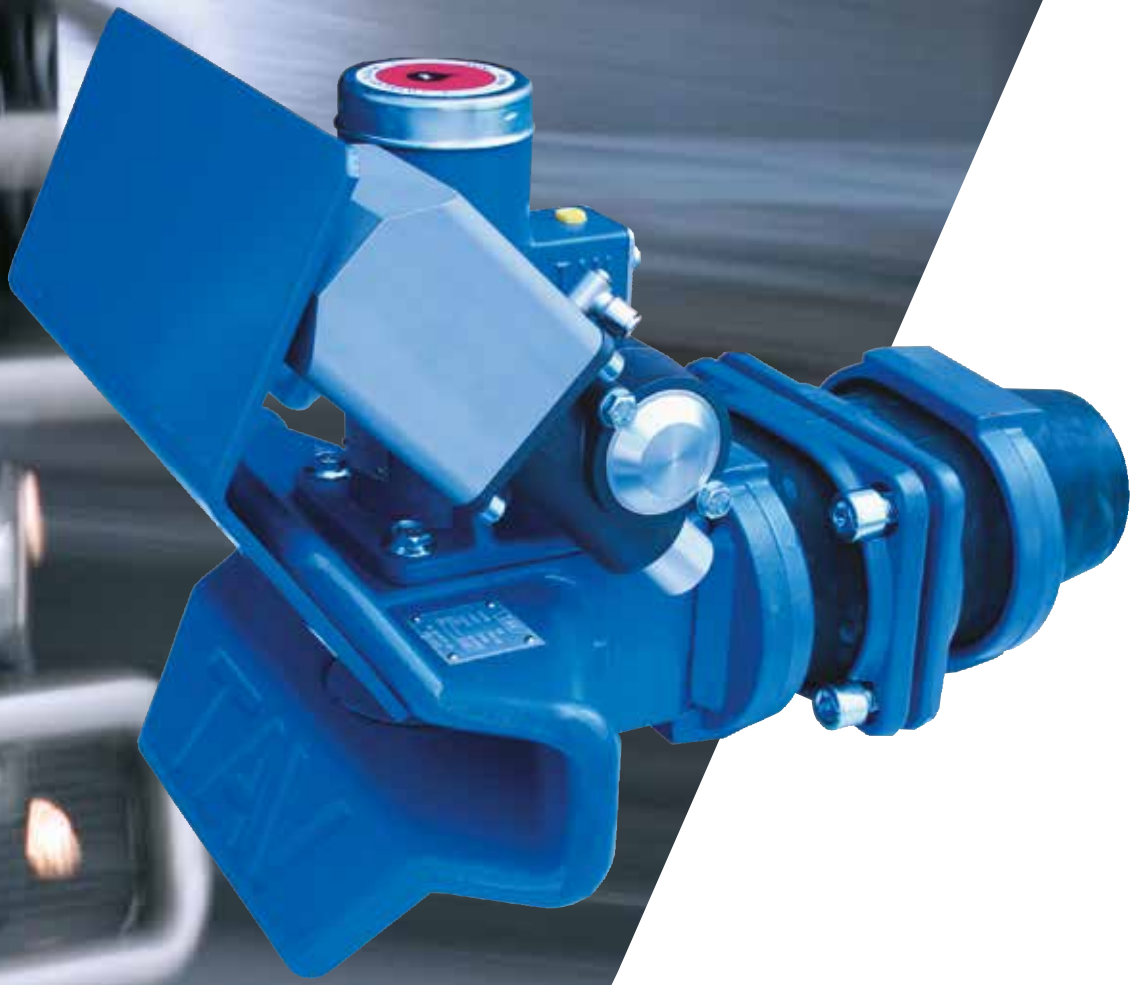
TAV

TAV COUPLING EQUIPMENT



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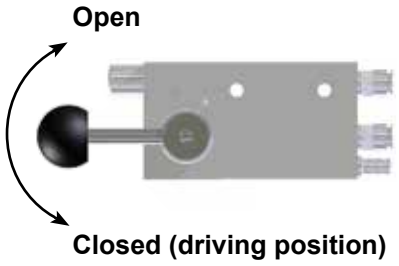
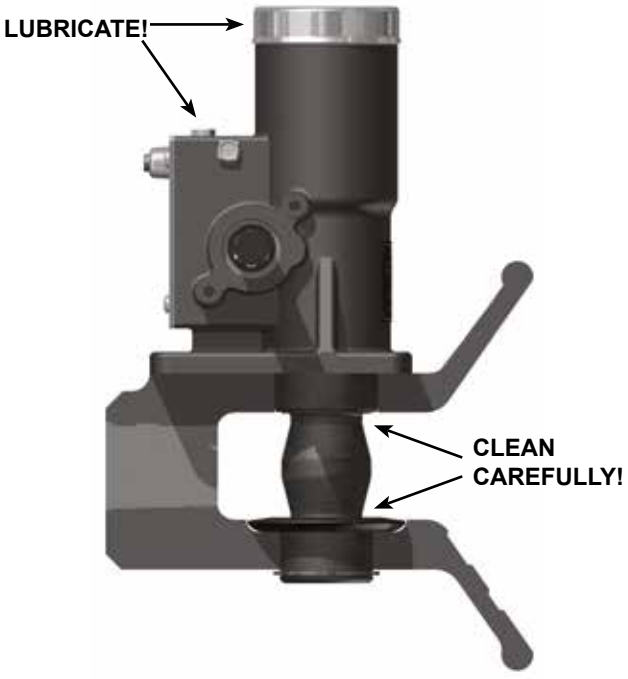
M. KORTE OY

INSTRUCTIONS FOR DRIVERS

Carry out the safety and maintenance inspection of the coupling head at least once a week and check the operation of the coupling head every time you use it.



Before starting the inspection, lower the coupling head pin down by giving a vigorous tap to the crank. If the coupling head is equipped with a pneumatic TAV servo, make sure that it is depressurised by turning the operating device lever to the middle position. At the same time, you should make sure that the operating device lever is locked in the driving position.



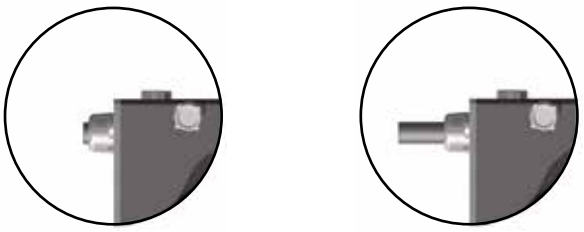
Make sure that the coupling head is clean and adequately lubricated.
If the coupling head is equipped with a TAV automatic central lubrication system, check the amount of grease. Replace the lubrication system as needed.

Clean the draw pin from accumulated dirt.
Also check the trailer drawbar eye and clean it as needed.
DO NOT LUBRICATE THE DRAWBAR EYE!

Check the coupling head pin and ferrules for wear with a gauge or calliper. Pin min. Ø 47 mm.
Lower ferrule max. Ø 40.5 mm.

Check the operation of the locking pin when the coupling head is in the OPEN and CLOSED positions.
If the coupling head is equipped with a TAV locking sensor, also check its operation.

Make sure that the draw pin rotates in the driving position.



If the coupling head does not function normally, there are disruptions in the operation or the given tolerances are exceeded, stop pulling and contact the maintenance personnel or the manufacturer immediately to troubleshoot and fix the problem.

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1. TAV50 AND TAV50D COUPLING HEADS

The TAV50 and TAV50D coupling heads have been approved for 50 mm drawbar eyes.
The TAV50 coupling head shall be used to couple a trailer equipped with a hinged drawbar to a lorry.
The TAV50D coupling head shall also be used to couple a dolly or a centre axle trailer to a vehicle.

The coupling head must be installed on the approved drawbeam, which has a 100x160 mm hole pattern.
In order to be able to utilise the permissible slewing angles of the coupling head, there must be at least 10 cm of free space around the coupling. Take this space requirement into account also when installing the servo cylinder and protective plate on the coupling head.

Never put your hand on the draw jaw when the coupling head pin is in the upper position.
If necessary, release the coupling head to the driving position by giving a vigorous tap to the crank.

Follow the instructions given. Carry out the work carefully and professionally.

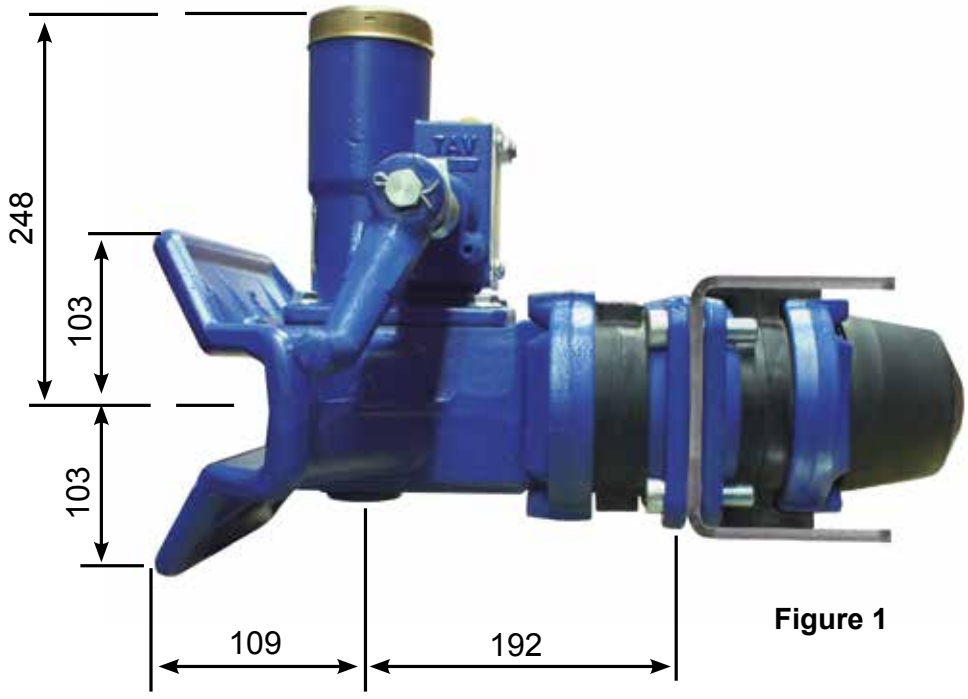


Figure 1

1.1 Installation of beam plates

Install the beam plates on the drawbeam as illustrated in **Figure 1**. Install the threaded beam plate on the inner side of the drawbeam. The tightening torque is about 220 Nm. Allen key 14 mm.

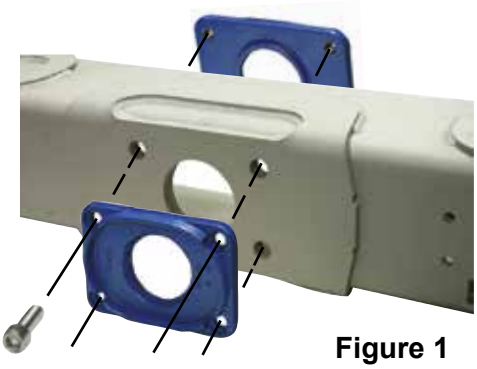


Figure 1

1.2 Coupling head installation

- Check all parts before installation.
- Do not install faulty products.
- Install the coupling head as illustrated in **Figure 1** (page 13).
  Take account of the direction of the TAV50D coupling head rubber grommets as illustrated in **Figure 1** (page 4).
  Hold the coupling in the horizontal position and turn the outer nut in place by hand. **Lubricate the jaw spindle thread**.
- Make sure that the TAV50D coupling rear rubber grommet lies firmly against the drawbeam in the vertical direction.
  If necessary, use the TAV736 support plates as illustrated in **Figure 2** (page 13).
- The spindle has four holes to enable correct installation. If necessary, up to two 3 mm adjustment plates can be used under the outer nut. Order number TAV5012.
- Tighten the outer nut until the distance between the control plate and the beam plate is 18–21 mm as illustrated in **Figure 3**. The outer nut width across flats is 75 mm (TAV5040 outer nut wrench).
- Lock the outer nut with an 8x90 mm cotter. Place the cotter in such a way that it is fully contained in the crown groove and bend it as illustrated in **Figure 2**.

Figure 2

Figure 3

1.3 Mechanism inspection and maintenance

- Open the upper cap by turning it counterclockwise with a strap wrench for oil filters.
- Clean and lubricate the mechanism with thin oil once or twice a month as illustrated in **Figure 1** (page 3).
- Check the amount of grease in the TAV5100 lubrication system and replace it as needed.
- Check the operation of the locking pin in the open position as illustrated in **Figure 4** and in the closed position as illustrated in **Figure 5**.
- Make sure that the mechanism functions flawlessly in both the open and closed position.
- Make sure that the coupling head pin rotates in the driving position.
- Do not put your hand on the draw jaw when the coupling head pin is in the upper position. Release the coupling by giving a vigorous tap to the crank.
- The coupling head pin may wear down to at most Ø 47.0 mm, after which the mechanism must be changed.
- The upper ferrule may wear down to at most Ø 51.5 mm and the lower ferrule to Ø 40.5 mm, after which they must be changed.
- The highest permissible overall clearance between the coupling head pin and the drawbar eye is 5.0 mm.
- If there is a servo cylinder in the coupling head, check its operation according to the maintenance instructions (page 7).

The mechanism must be changed immediately if the aforementioned tolerances are exceeded or the mechanism does not work flawlessly despite maintenance.

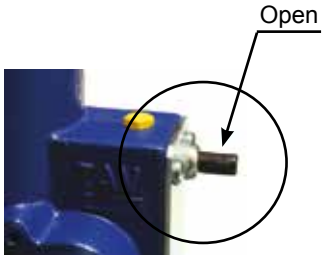


Figure 4

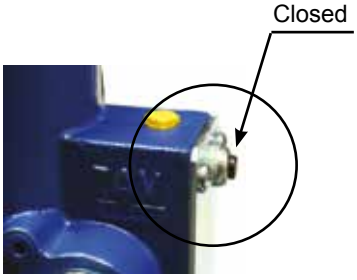


Figure 5

1.4 Change of mechanism

- If the coupling head is equipped with a TAV servo, cut the compressed air input for the operating device when the coupling head is in the driving position. Detach the compressed air hoses coming to the servo cylinder. Detach the servo cylinder bolts and locking ring and pull the servo cylinder off the mechanism. Also detach the servo cylinder intermediate flange.
  Verify the servo cylinder position.
- Detach the mechanism mounting bolts (width across flats 17 mm).
- Lift the mechanism off.
- Detach the ferrules from the bottom up.
- Clean and check the ferrule housings as well as the faying surfaces of the coupling jaw and of the mechanism.
  Lubricate the ferrule housings.
- Install the wear ring between the lower ferrule and the jaw.
- Install the ferrules from the top down.
- Lock the lower ferrule with a safety ring (page 13).
- Install the mechanism in place on the jaw spindle. Mount the bolts loosely. Width across flats 17 mm.
- Make sure that the mechanism functions flawlessly in both the open and closed position.
- Make sure that the coupling head pin rotates in the driving position.
- Do not put your hand on the draw jaw when the coupling head pin is in the upper position.
  If necessary, release the coupling by giving a vigorous tap to the crank.
- When the mechanism functions faultlessly, tighten its bolts.
  Tightness 90–100 Nm.
- If the coupling head is equipped with a TAV servo, see page 6.
- The TAV100S and TAV100DS servo mechanisms, which are ready for installation as such, are also available.
- Check the operation of the TAV servo according to the servo installation instructions.
- Check the amount of grease in the TAV5100 lubrication system and replace it as needed.

- **Finally, lubricate the mechanism as illustrated in Figure 1.**

Figure 1

1.5 Coupling head mounting inspection

- It is recommended to check the coupling head mounting every year.
- Detach the coupling head from the beam.
- Also detach the beam plates to be able to check the drawbeam for faults in correspondence with the hole pattern.
- Check the jaw spindle mounting and the jaw spindle for faults.
- The jaw spindle must be replaced if the spindle is loosely mounted on the jaw or bent.
  The spindle is mounted on the jaw with a threaded joint. The threaded joint is secured with two spring cotters.
- The jaw spindle must also be replaced if its threads or those of the outer nut are damaged.
- Check the beam and control plates to make sure that there are no cracks or bends. Replace them with new ones as needed.
- Check the condition of the rubber grommets.
  Use only TAV5007DE and TAV5007DT rubber grommets in the TAV50D coupling.
  Take the TAV5007DT rear rubber grommet installation direction into account as illustrated in **Figure 1**.
  Use TAV5007 rubber grommets in the TAV50 coupling.
- The rubber grommets must be replaced if they are cracked, deformed or hardened.

TAV rubber grommets are wear parts despite their high Finnish quality. Replace them with new ones sufficiently often, for example, in conjunction with annual inspections.

TAV5007DT rear rubber grommet installation direction

Figure 1

TAV50 coupling head rubber grommets

TAV5007

TAV50D coupling head rubber grommets

TAV5007DE

TAV5007DT

2.TAV5850 SERVO KIT

The **TAV servo kit** consists of the TAV5900 operating device kit and the TAV5800 servo cylinder kit.
TAV servo kit order number TAV5850.

The TAV servo kit is suitable for the TAV50/50D coupling head.

The servo kit can be installed on the TAV50/50D coupling head already at the factory. In this case, only install the operating device kit on the vehicle.

Installation is fast and easy thanks to simple mounting. Servo cylinder servo cylinder directly on the mechanism (crank axle) with two mounting bolts.

Never put your hand on the draw jaw when the coupling head pin is in the upper position. When the servo is installed on the coupling head, release the coupling pin down with the drawbar eye if necessary.
If you do not have a drawbar eye, depressurise the system by detaching the hose that leaves from the vehicle's accessory shoe. Release the coupling head to the driving position by giving a vigorous tap to the crank.

Follow the instructions given. Carry out the work carefully and professionally.

Before installation, check that the kit contains all parts.

TAV5900 OPERATING DEVICE KIT

Installation profile	1 pcs
Control valve	1 pcs
Control valve mounting bolts	2 pcs
Control valve mounting bolt washers	2 pcs
Direct connectors 1/8-8	3 pcs
Exhaust pipe connectors 1/8-10	2 pcs
Plastic pipe 8	14 m
Exhaust pipes 10	2 pcs
Protective sleeving	2 m
Output connector with valve 1/4-8	1 pcs
Tapping connector M16-1/4	1 pcs

TAV5800 SERVO CYLINDER KIT

Intermediate flange	1 pcs
Sealing O-rings	2 pcs
Servo cylinder	1 pcs
Washer under locking ring	1 pcs
Locking ring for crank axle	1 pcs
Protective cover	1 pcs
Protective cover locking plates	2 pcs
Locking bolt washers	2 pcs
Locking bolts	2 pcs
Elbow connectors 1/8-8	2 pcs
Protective plate	1 pcs
Protective plate mounting bolts	3 pcs

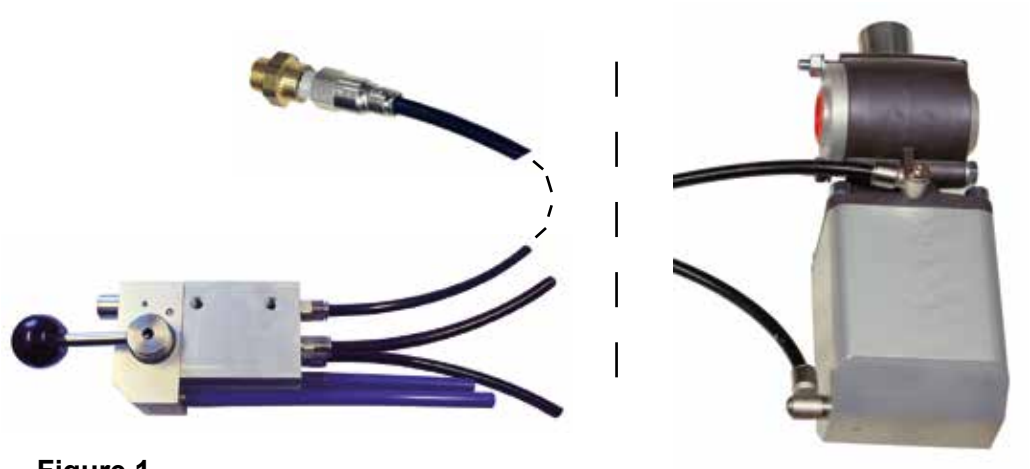
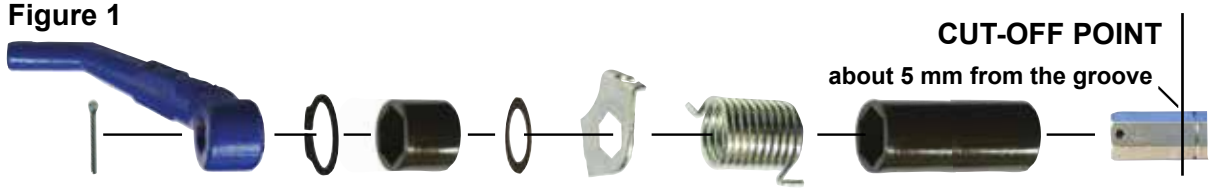


Figure 1

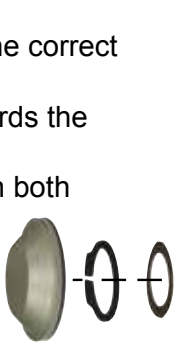
2.1 Servo cylinder kit installation on coupling head

- Release the coupling head to the driving position by giving a vigorous tap to the crank if it is in the upper position.
- Remove the locking cotter, crank, locking ring, outer sleeve (short), washer, spring holder, spring and inner sleeve (long) from the crank axle as illustrated in **Figure 1** and the thread protective plugs from the mechanism on the servo cylinder installation side. Reinstall the short sleeve on the crank axle inside the mechanism.
- Cut the hexagonal crank axle about 5 mm outside the locking ring groove as illustrated in **Figure 1**. Remove all burrs as the servo cylinder must move into place when pushed by hand.

Figure 1



- Open the servo cylinder mounting bolts (2 pcs).
- Install the intermediate flange on the mechanism side so that the inner ring collar leans tightly against the mechanism control housing. Clean the control housing before installation as illustrated in **Figure 2**.
- Make sure that the servo cylinder piston is in the correct position.
  If necessary, turn the cylinder from above towards the drawbeam until you reach the limit position.
- Make sure that the sealing O-ring is in place on both sides of the servo cylinder as illustrated in **Figure 1a** (page 15).



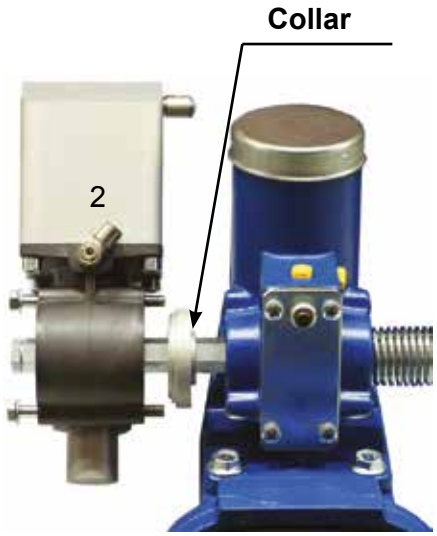


Figure 2

- Always install the servo cylinder so that air connector 2 is above and the mounting bolts are in place.
- Place the washer on the crank axle.
  Lock the crank axle with a locking ring.
- Mount the servo cylinder on the mechanism with bolts as illustrated in **Figure 2**.
- Before performing the final tightening, put a protective cover under the locking plates below the bolt heads. Tighten the bolts with a torque of about 20 Nm as illustrated in **Figure 1b** (page 15).

- Before switching compressed air on, make sure that the coupling head functions faultlessly in both the open and closed position.

- Install the protective plate by turning the cone-headed bolts (3 pcs) into the upper threaded holes as illustrated in **Figure 3**.

- For the various installation options of the servo cylinder, see Accessories (page 11). The servo cylinder can be installed to either the right or left of the coupling head.

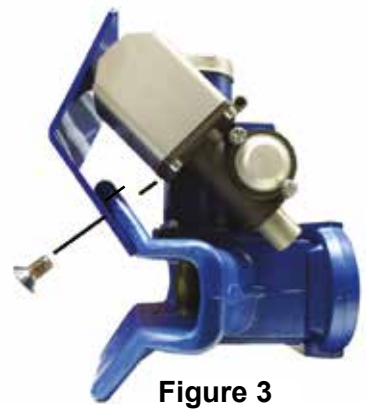


Figure 3

2.2 Control valve installation

- Install the control valve with the locking button side up inside the installation profile.
- Take the pneumatic connection from the accessory shoe recommended by the vehicle's manufacturer. No brake circuit! The highest permissible operating pressure is 8 bar. If necessary, use a pressure release valve.
- Install a quick connector equipped with a check valve on the accessory shoe.
  Press the hose firmly against the connector. If necessary, detach the pipe from the connector to depressurise the servo cylinder.
- Cut the pipe coming from the accessory shoe to a suitable length.
  Connect the pipe head to control valve connector no. 1 as illustrated in **Figure 2**.
- Connect the pipes going to the servo cylinder to connectors number 2 and 4 in both the control valve and the servo cylinder. Protect the pipes with protective sleeving.
- Make sure that the safety lock of the control valve lever functions faultlessly.
- Pressurise the system. Make sure that there are no air leaks.
- Make sure that the coupling head functions faultlessly when operated pneumatically.
- If the actuating device for opening the coupling under remote control is mounted externally on the vehicle it shall be possible to oversee the area between the coupled vehicles, but shall not be necessary, however, to enter this area in order to operate it.

CONTROL VALVE

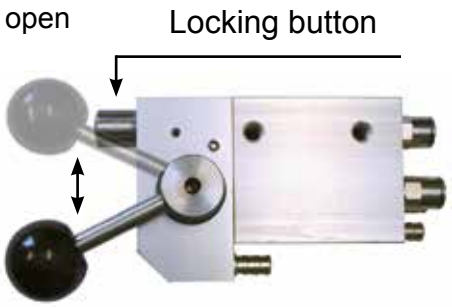


Figure 1

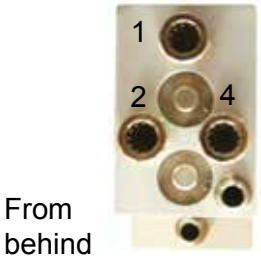


Figure 2

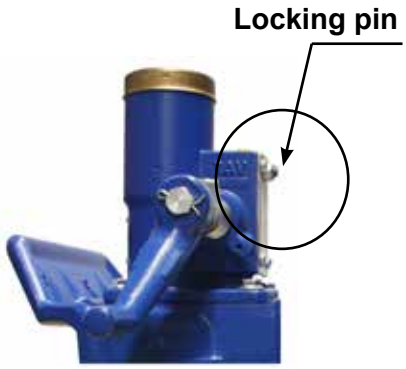


Figure 3

2.3 TAV Servo operation and maintenance

Opening

- Open the coupling head by pressing the locking button all the way down and by lifting the control lever up, i.e, to the open position. Compressed air will now lift the coupling pin up.

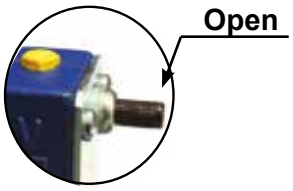


Figure 4

Coupling

- Press the control lever down, i.e., to the driving position. Air will now press the coupling pin down. However, the pin will remain up in the ready position, from where the eye will release it upon coupling.
- While driving, always keep the control lever **in the lower position, i.e., in the driving position**.
- After coupling and before starting to drive, always make sure that the coupling head is in the driving position as illustrated in **Figure 5**.

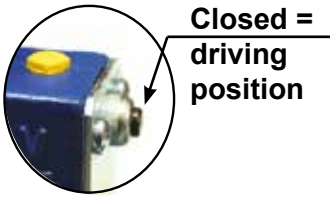


Figure 5

Maintenance

- The TAV servo itself does not require special maintenance.
- However, make sure that the compressed air system is clean.
- Lubricate and clean the coupling head once or twice a month.

3. ACCESSORIES

3.1 TAV5100 Automatic central lubrication system

- The TAV5100 automatic central lubrication system lubricates the mechanism on your behalf.

- The mechanism lubrication time can be adjusted (1–12 months) and the dosage can be modified during use.

- The automatic central lubrication system is very easy to install on the mechanism.

Installation

- Remove the yellow lubrication plug of the mechanism by turning it.

- Cut the lubrication system plug from the thread head.

- Set the desired lubrication time with an Allen key.
  Recommendation 6–12 months. The Allen key is included in the package.

- Place the washer under the conversion nipple.

- Turn the lubrication system to the conversion nipple.

- Turn the lubrication system in place into the lubrication plug hole.

Note!
Changed location of the locking sensor
The TAV5951 locking sensor is replaced by the new TAV5961 M12 threaded sensor model. As a result, the mounting probe for the mechanism sensor is now M12. The M8 threaded sensor can be connected to the mounting hole of the mechanism with M8/M12 connector.

3.2 TAV5960 Locking sensor kit with LED indicator light

With the locking sensor kit, the driver can see from the driving cab indicator light whether the coupling head is locked. The sensor kit can be installed on the TAV50/ TAV50D coupling heads.

The indicator light requires a 22x44 mm installation hole.

Install the TAV5100 lubrication system with the sensor kit on the mechanism side hole with the TAV5102 elbow adapter.

Sensor installation

- Depressurise the system and release the coupling head to the driving position by giving a vigorous tap to the crank if it is in the upper position.
- Carefully turn the sensor to the mechanism all the way down. Open the sensor by turning it about 1.5 times and lock the sensor with locking nuts.
  Figure 1
- Couple the sensor connecting cable to the sensor.

Figure 1

Sensor kit coupling

- Take the sensor connecting cable from the coupling to the vehicle's driving cab.
- Connect the 3-pole (numbered) connector to the sensor connecting cable head as illustrated in **Figure 2**.
- Couple the power supply to the 2-pole connector as illustrated in **Figure 3**.
- Install the indicator light on the dashboard and couple the connectors to the indicator light connectors.
- Check the operation of the sensor. The sensor is installed correctly if, when lifting the mechanism from the crank, the coupling pin moves slightly up, in which case the sensor light turns on and the indicator light is red. The indicator light is green when the coupling is closed.

Sensor cable coupling to the 3-pole numbered (1-3) connector

Figure 2

1. Brown – sensor operating voltage (+24 V)
2. White – control coming from the sensor
3. Blue – sensor earthing (-)
4. Black – no coupling

Power supply to the 2-pole numbered (1-2) connector

1. +24 V
2. GND (-)

Figure 3

3.3 Usage of locking sensor TAV5961 with some other system

The sensor holds the independent approval according to the E Regulation No. 10. The sensor can be fitted with remote display equipment set TAV5960, which has been approved for the coupling head, EMC tested and meets the requirements of the E Regulation No. 55.

When connecting to some other system the following instructions needs to be taken into consideration:

- Nominal value 12…24 V of the sensor supply voltage, power consumption without loading the signal conductors <= 10 mA
- The sensor cable must be protected against short-circuit <= 4 A fuse or some other applicable method. The sensor in itself includes overload and short-circuit protection.
- The load capacity of the sensor cable return signals is <= 200 mA.
- If the coupling head is fitted with a remote display device, the remote display device or the vehicle system must meet the requirements set for the remote display device by the E Regulation No. 55. The remote display system must be type-approved for the coupling equipment in question.

Sensor installation to the coupling head

1. Depressurise the system and trigger the coupling head to the driving position by hitting the handle swiftly, if it is in the top position.

2. Carefully screw the sensor mechanism all the way down. Unscrew the sensor by approx. 1.5 turns and lock the sensor with the locking nuts (figure).

3. Connect the sensor's connection cable to the sensor.

Sensor connection

The sensor cable's conductor colours/sensor connector:

1. Brown – sensor supply voltage (+12…24 V)
2. White – control coming from sensor (active when the coupling head is locked)
3. Blue – sensor GND (–)
4. Black – control coming from sensor (active when the coupling head is open)
   (Only in the Telemecanique sensor, not connected in others)

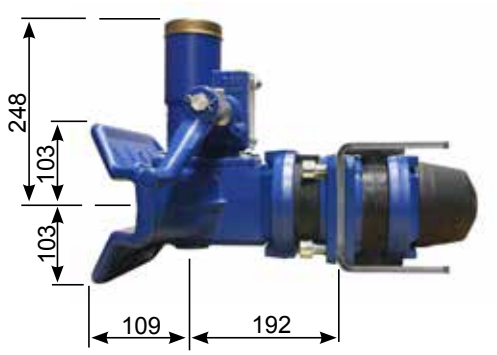
Check the operation of the sensor. The sensor is installed correctly when the red light is lit in the indicator lamp when the mechanism handle is raised and the coupling pin moves slightly upwards. When the coupling is attached the green light is lit in the indicator light.

3.3 TAV5812 SERVO CYLINDER SLEWING FLANGE KIT

Thanks to the TAV5812 slewing flange, the servo can be installed in different positions in the coupling head.

4. TECHNICAL SPECIFICATIONS

Coupling heads TAV50 and TAV50D
Weight 42 kg

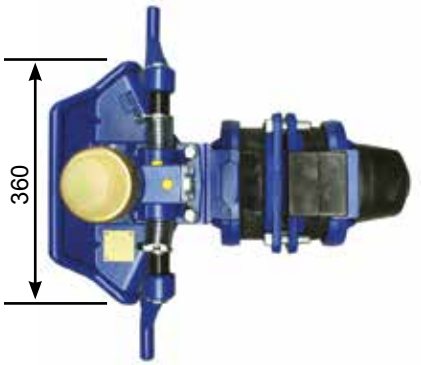


Mechanisms TAV100 and TAV100D
Weight 10 kg

Type approval number
e17*94/20*94/20*0002*01.

TAV50
Highest D value: 190 kN

TAV50D
Highest D value: 190 kN, DC = 120 kN
Highest vertical load
S at the coupling point: 1,000 kg
Highest V value: 50 kN



TAV5800 servo cylinder kit
Weight: 6 kg
The TAV servo is suitable for the TAV50 and TAV 50D coupling heads and the TAV100 and TAV100D mechanisms.

TAV5900 operating device kit
Weight: 2 kg

Type plates

TAV50
Coupling head

TAV100
Mechanism

TAV50D
Coupling head

TAV100D
Mechanism

5. SPARE PARTS

5.1 Coupling head spare parts

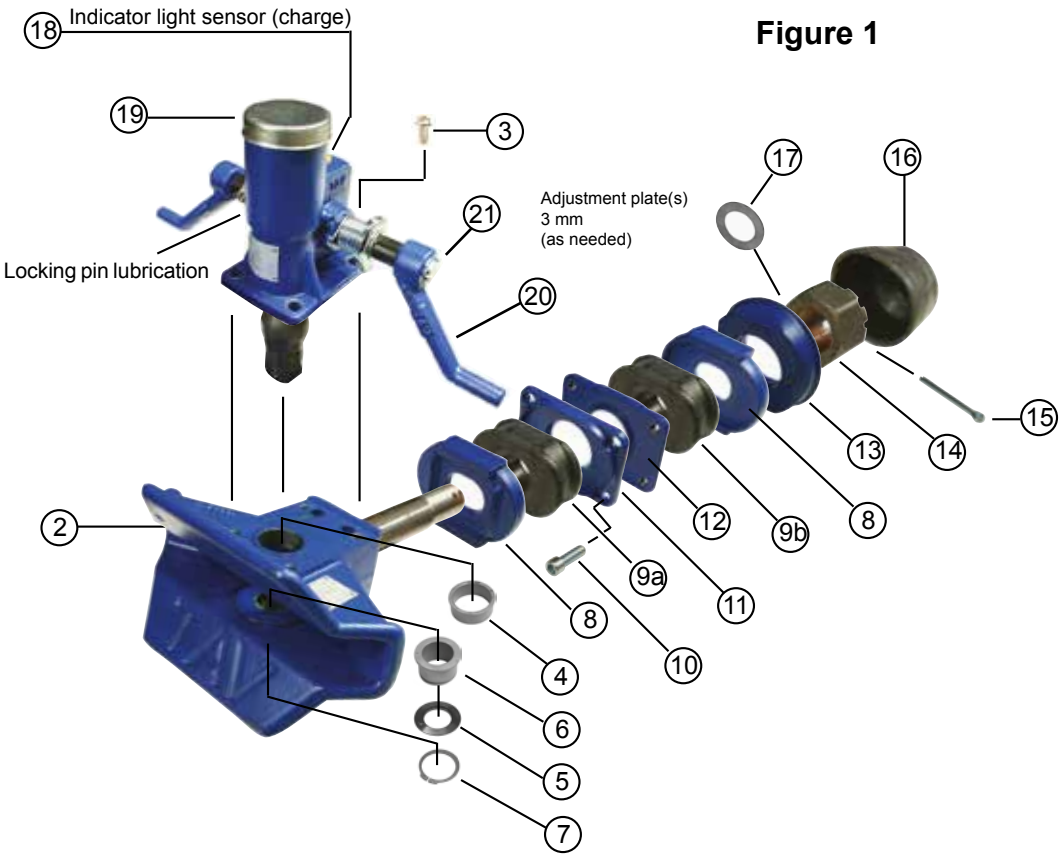


Figure 1

Pos.	Product no.	Product name
1	TAV100	Mechanism
2	TAV5001	Jaw spindle
3	TAV5033	Bolt M12x30
4	TAV5002	Upper ferrule
5	TAV5004	Wear ring
6	TAV5003	Lower ferrule
7	TAV5005	Safety ring
8	TAV5006	Control plate
9ab	TAV5007	Rubber grommet
10	TAV5010	Bolt M16x50

Pos.	Product no.	Product name
11	TAV5008	Beam plate
12	TAV5009	Threaded beam plate
13	TAV5011	Outer nut washer
14	TAV5013	Outer nut
15	TAV5014	Cotter for outer nut 8x90
16	TAV5015	Outer nut protection
17	TAV5012	Adjustment plate 3 mm
18	TAV5951	Indicator light sensor
19	TAV5016M	Maintenance cap silver
20	TAV5026	Crank
21	TAV5025	Crank locking cotter

NOTE! TAV5007DT rubber grommet installation direction

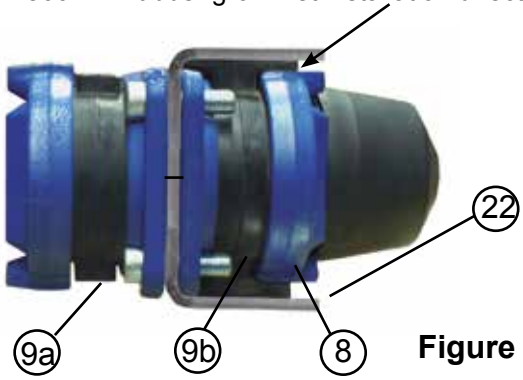


Figure 2

Differences in TAV50D coupling

Pos.	Product no.	Product name
1	TAV100D	Mechanism
2	TAV5001D	Jaw spindle
8	TAV5006D	Control plate rear
9a	TAV5007DE	Rubber grommet front
9b	TAV5007DT	Rubber grommet rear
19	TAV5016MD	Maintenance cap gold
22	TAV736	Support plate pair

5.2 Mechanisms

TAV100 Mechanism
For TAV50 coupling head

Package: mechanism,
TAV5035 ferrule kit and
TAV5026 cranks.

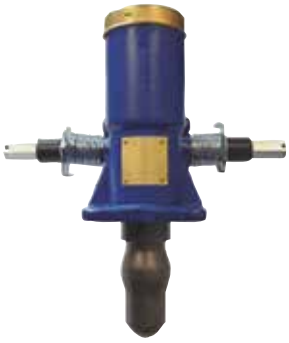
TAV100S Servo mechanism
For TAV50SR coupling head

SERVO

Package: mechanism,
TAV5035 ferrule kit,
servo mounting bolts and
TAV5026 crank.

TAV100D Dolly mechanism
For TAV50D coupling head

DOLLY



Package: mechanism,
TAV5035 ferrule kit,
TAV5026 cranks,
TAV5007DE rubber grommet Dolly front,
TAV5007DT rubber grommet Dolly rear.

TAV100DS Dolly servo mechanism
For TAV50DSR coupling head

DOLLY

SERVO

Package: mechanism,
TAV5035 ferrule kit,
servo mounting bolts,
TAV5026 crank,
TAV5007DE rubber grommet Dolly front,
TAV5007DT rubber grommet Dolly rear.

TAV5026 Cranks

TAV5035
Ferrule kit

TAV5007DE Rubber grommet
Dolly front

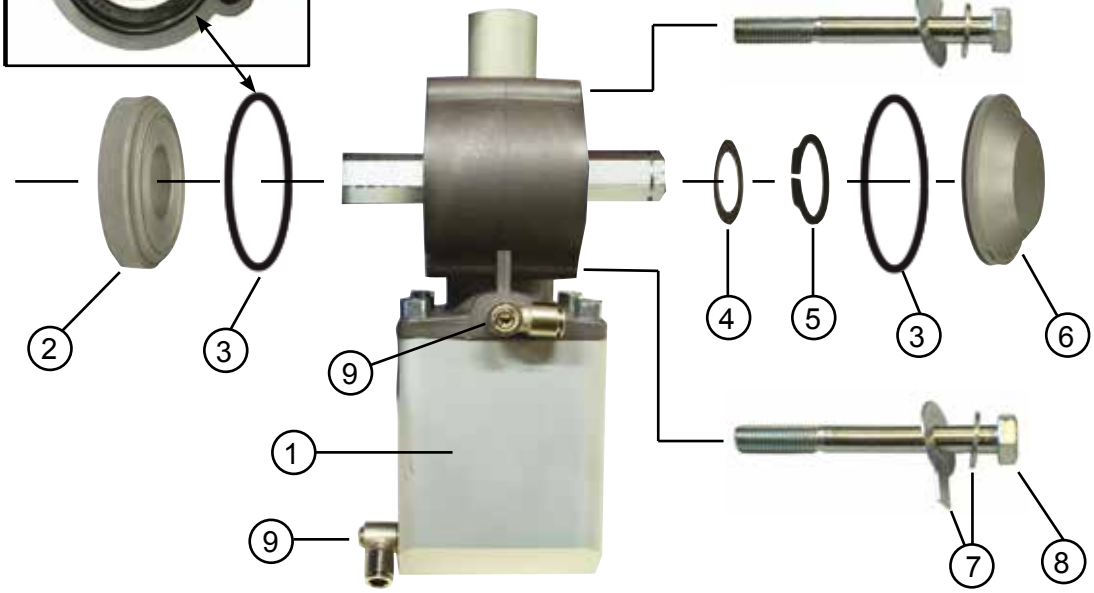
TAV5007DT Rubber grommet
Dolly rear

5.3 TAV5850 Servo kit spare parts

1a

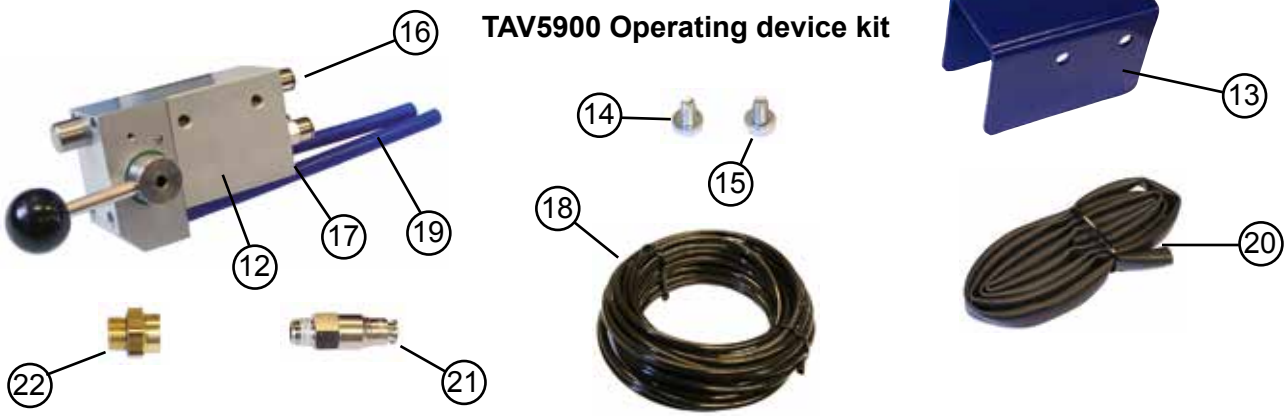
1b

TAV5800 Servo cylinder kit



Pos.	Product no.	Product name	Pos.	Product no.	Product name
	TAV5800	Servo cylinder kit		TAV5900	Operating device kit
1	TAV5801	Servo cylinder	12	TAV5901	Control valve
2	TAV5802	Intermediate flange	13	TAV5902	Installation profile
3	TAV5803	Sealing O-rings 2 pcs	14	TAV5903	Mounting bolts 2 pcs
4	TAV5804	Washer 22x32	15	TAV5904	Washers 2 pcs
5	TAV5805	Locking ring	16	TAV5905	Direct connectors 1/8-8 3 pcs
6	TAV5806	Protective cover	17	TAV5906	Exhaust pipe connectors 1/8-10 2 pcs
7	TAV5807	Washers 2 pcs			
7	TAV5807-2	Locking plates 2 pcs	18	TAV5907	Plastic pipe 8 mm, coil 14 m
8	TAV5808	Locking bolts 2 pcs	19	TAV5908	Exhaust pipe 10 mm
9	TAV5809	Elbow connectors 1/8-8 2 pcs	20	TAV5909	Protective sleeving 2 m
			21	TAV5910	Output connector 1/4-8 with valve
10	TAV5810	Servo protective plate			
11	TAV5811	Mounting bolts 3 pcs	22	TAV5911	Tapping connector M16-1/4
	TAV5820	Sealing kit			

TAV5900 Operating device kit



5.4 TAV5960 Locking sensor kit spare parts

Pos.	Product no.	Product name
1	TAV5961	Locking sensor
2	TAV5952	Sensor cable 15 m
3	TAV5965	Central unit with indicator light
4	TAV5942	2-pole connector
5	TAV5943	3-pole connector
6	TAV5944	4-pole connector

1

2

3

4

5

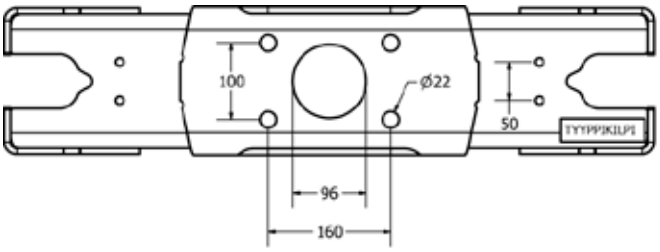
6

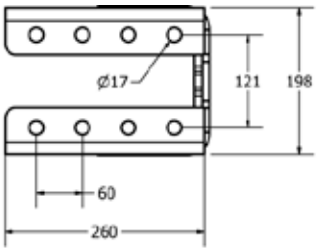
6. TAV DRAWBEAM B190

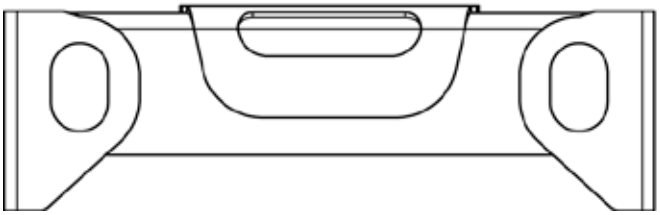
The TAV drawbeam is suitable for EU class C50-6, Nordic trailers and centre axle trailers.
Combined weight 76 tonnes, front bogie 18 T (as per SS 3645)

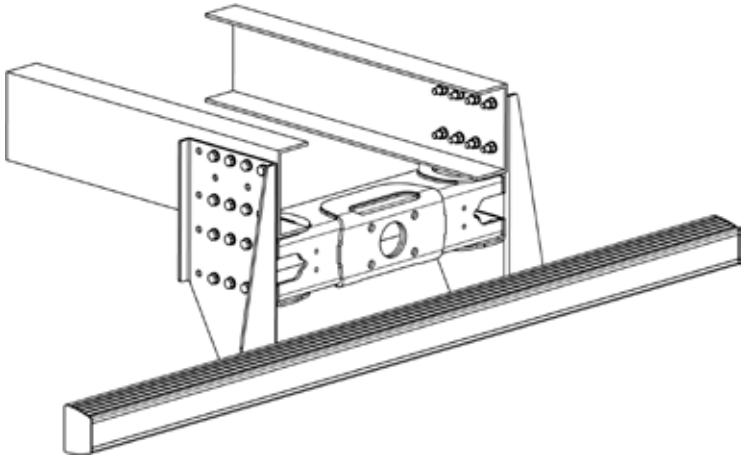
Technical specifications: D 190 Kn, Dc 120 Kn, S = 1,000 kg, V = 50 kN.
Coupling hole pattern ISO3584 Cat 3 (160x100 mm).
Approval number e17*94/20*94/20*0105*00

Drawbeam	Length	Weight
TAV742	742	46
TAV752	752	47
TAV760	760	47
TAV770	770	48
TAV790	790	49
TAV784	784	49
TAV800	800	49
TAV834	834	50
TAV850	850	51
TAV885	885	52









6.1 Installation and maintenance instructions

Check all parts before installation. The installation must be carried out carefully and professionally. Follow the instructions. Take account of the instructions provided by the vehicle's manufacturer about installation and reinforcements (where applicable).

Side plate installation on the frame

Install the drawbeam on each side of the vehicle's frame or side plates according to the instructions for each side plate.
Other frame widths can be obtained by using spacer plates between the side plate and the drawbeam.
Spacer plates are available in the following thicknesses: 1.5 mm (TAV720), 1 mm (TAV721), 2 mm (TAV722), 4 mm (TAV724) and 6 mm (TAV726). They are delivered in pairs. **Do not use spacer plates between the frame and the side plate**.
Maximum 10 mm per side.

Install the drawbeams and side plates on the vehicle's frame by means of bolt joints. Do not punch, notch or weld the drawbeams and side plates. Drill the required number of 17 mm installation holes in the frame.
Use the drawbeam/side plate as an installation template.

Only put one washer under the bolt head. Make sure that the holes of the side plate, drawbeam or frame and any additional plates are in threadless portion of the bolt. Use the required number of washers under the nut (1–3 pcs). Place the washers and nut on the inner side of the drawbeam/frame.

Install the drawbeam on the side plate pair with the bolt kits

TAV729 This kit is used when no spacer plates are needed in the installation.

TAV730 This kit is used when spacer plates of less than 8 mm are needed in the installation.

TAV731 This kit is used when spacer plates of more than 8 mm or 7–10 mm spacer plates are needed in the installation in addition to 8 mm side plates (TAV701 and TAV702) and 10 mm side plates (TAV703 and TAV704), respectively.

Two bolt kits are needed to install the drawbeam and side plates

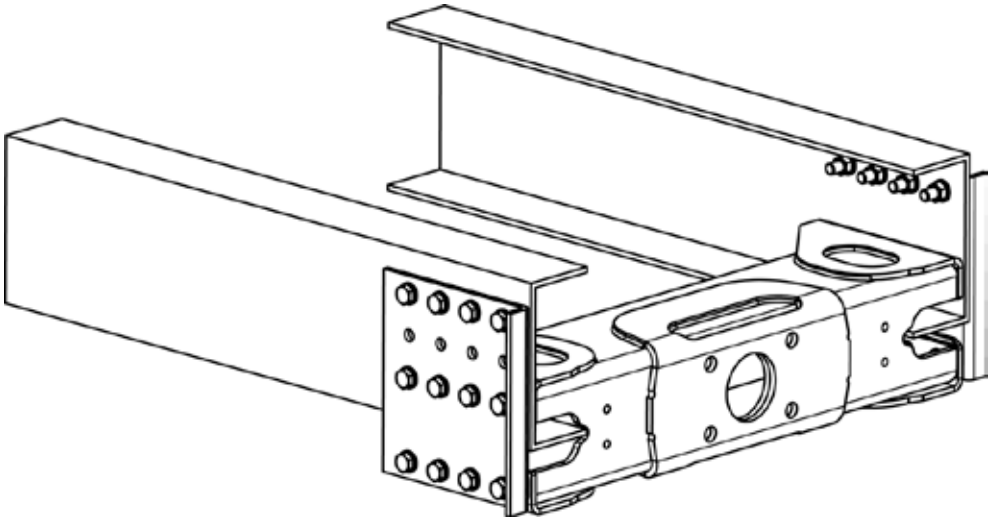
All bolts, nuts and washers must be surface-treated, and their hardness must be 10.9.
The bolt joints must be tightened with a torque wrench when the threads are dry (torque 200 Nm). Retightening after 5,000 km. Tighten and check the bolt joints as needed.

A fissure of at least 1 mm must always remain between the upper and lower flanges of the drawbeam and of the frame. When installing the drawbeam under the vehicle's frame with side plates, mount the side plates on the drawbeam before mounting them on the frame.

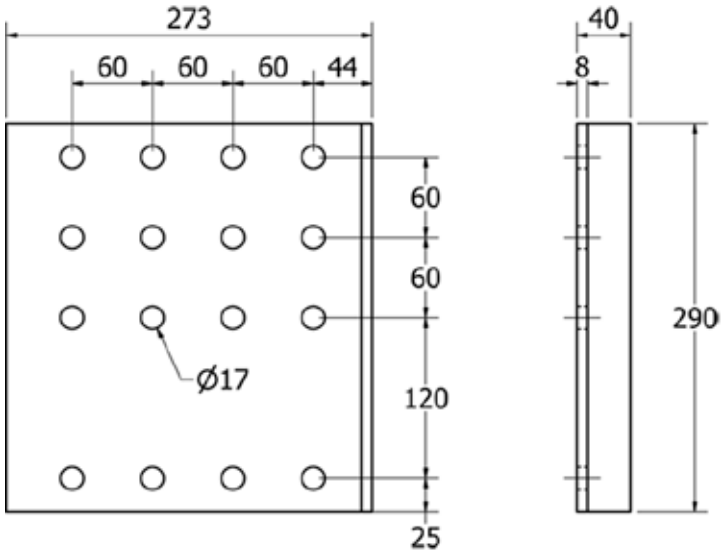
It is prohibited to mount accessories, such as underrun protection brackets, with the bolt joints of the drawbeam and side plates. These joints do not meet the existing approval criteria.

6.2 Side plates

Side plate TAV700 (DS) Height 290 mm, width 273 mm and thickness 8 mm



TAV700

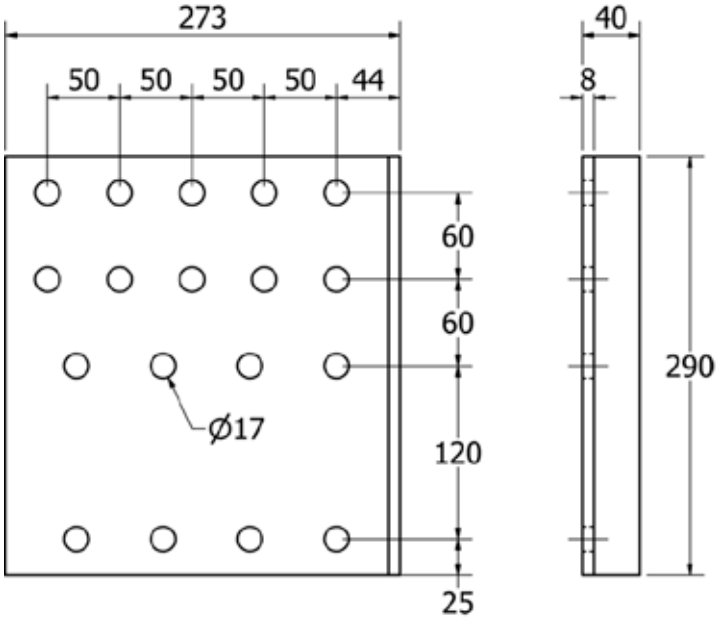


Use these side plates to install the coupling head at the height of the frame beam lower surface. Install the side plate with the strengthener bent forward. Delivered in pairs.

Install the side plate directly on the frame with 4 bolts (M16) on each side. In addition, install the side plate on the frame and drawbeam with 4 bolts (M16) on each side. Mount the side plate and drawbeam together with 4 bolts (M16) on each side. There must be a layer of spacer plates as thick as the frame between the side plate and the drawbeam (at most 10 mm per side).
In addition to the bolts needed in the bolt kits, there must be 2 spacer plates (1.2 and 6 mm).

Required bolt kit TAV732

TAV700-50-60

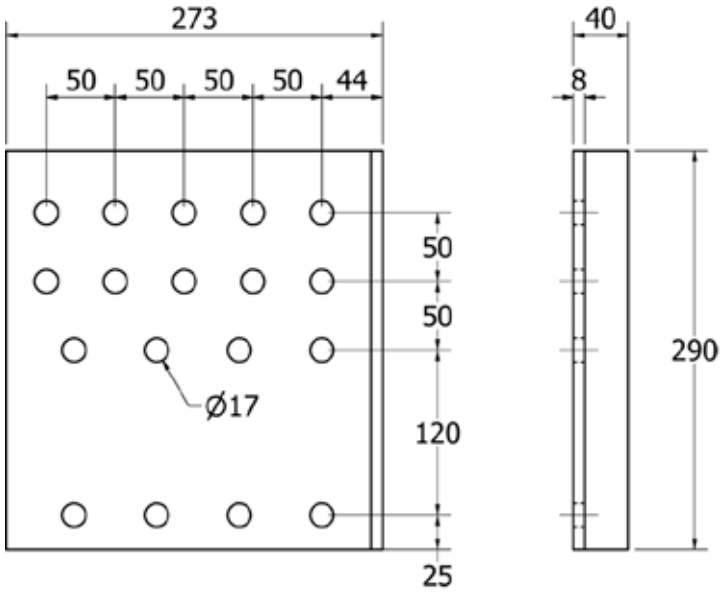


Use these side plates to install the coupling head at the height of the frame beam lower surface. Install the side plate with the strengthener bent forward. Delivered in pairs.

Install the side plate directly on the frame with 6 bolts (M16) on each side. In addition, install the side plate on the frame and drawbeam with 4 bolts (M16) on each side. Mount the side plate and drawbeam together with 4 bolts (M16) on each side. There must be a layer of spacer plates as thick as the frame between the side plate and the drawbeam (at most 10 mm per side).
In addition to the bolts needed in the bolt kits, there must be 2 spacer plates (1.2 and 6 mm).

Required bolt kit TAV732-5

TAV700-50-50

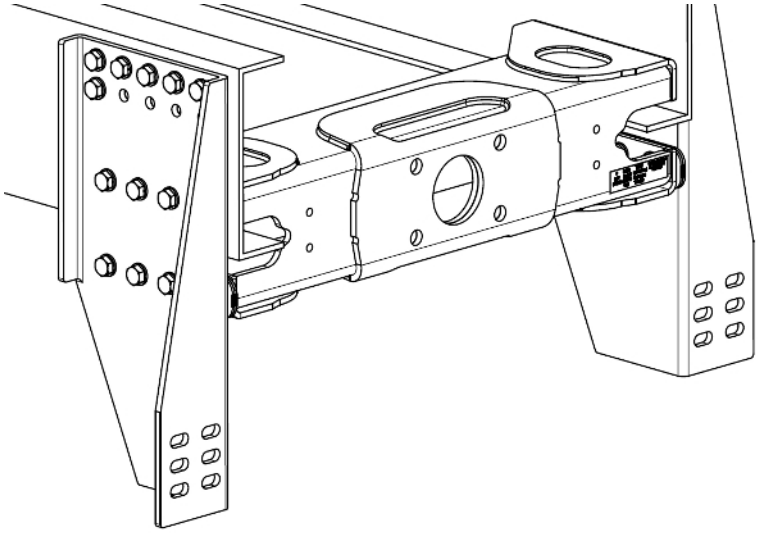


Use these side plates to install the coupling head at the height of the frame beam lower surface. Install the side plate with the strengthener bent forward. Delivered in pairs.

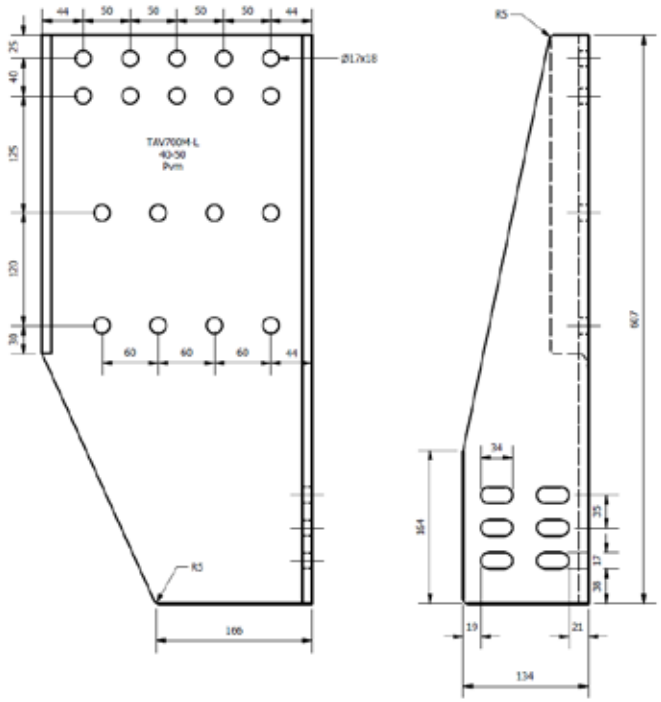
Install the side plate directly on the frame with 6 bolts (M16) on each side. In addition, install the side plate on the frame and drawbeam with 4 bolts (M16) on each side.
Mount the side plate and drawbeam together with 4 bolts (M16) on each side. There must be a layer of spacer plates as thick as the frame between the side plate and the drawbeam (at most 10 mm per side).
In addition to the bolts needed in the bolt kits, there must be 2 spacer plates (1.2 and 6 mm).

Required bolt kit TAV732-5

Side plate 700M Height 607 mm, width 288 mm and thickness 10 mm



TAV700M



Use these side plates to install the coupling at the same height of the frame beam lower surface.

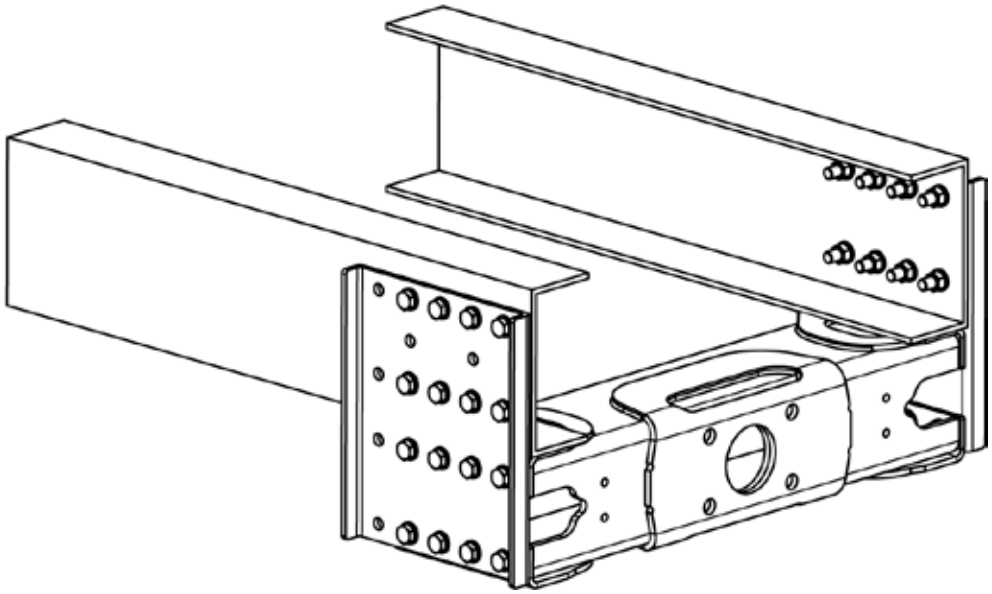
Install the side plate directly on the frame with 4 bolts (M16) on each side.

Mount the side plate and drawbeam together with 4 bolts (M16) on each side.

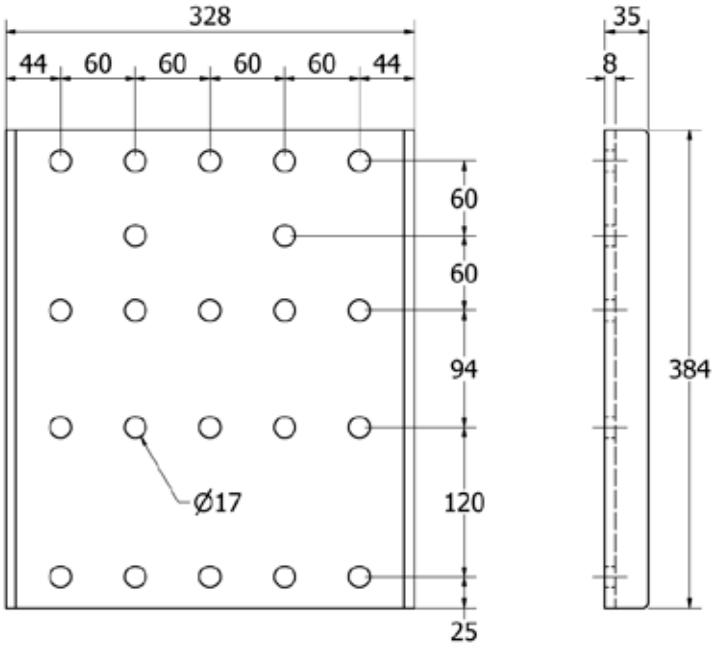
There must be a layer of spacer plates as thick as the frame between side-plate and the drawbeam (at most 10 mm per side).

Required bolt kit TAV729

Side plate TAV701 (DH) Height 384 mm, width 328/338 mm and thickness 8 mm



TAV701

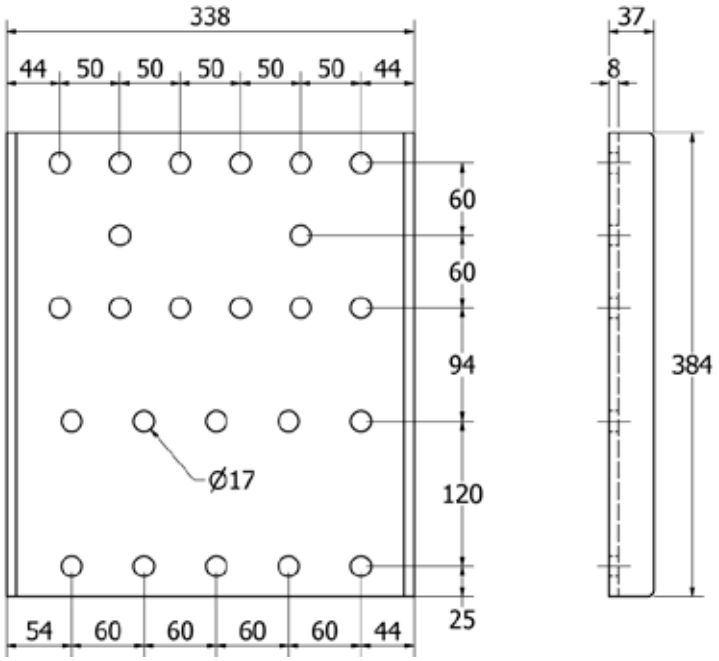


Install the coupling head about 100 mm below the lower surface of the vehicle's frame with these side plates.
The side bars can be used to move the drawbeam forward by about 60 mm.
Delivered in pairs.

Install the side plate on the frame with at least 8 bolts (M16), leaving at least one of the middle holes unused.

Required bolt kit TAV729

TAV701-50-60

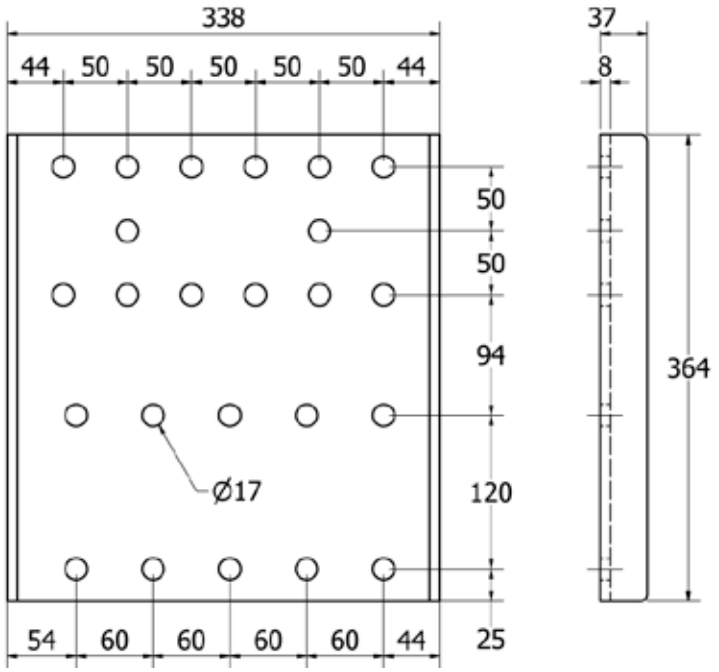


Install the coupling head about 100 mm below the lower surface of the vehicle's frame with these side plates.
The side bars can be used to move the drawbeam forward by about 50 mm.
Delivered in pairs.

Install the side plate on the frame with at least 10 bolts (M16), leaving at least one of the middle holes unused.

Required bolt kit TAV728

TAV701-50-50

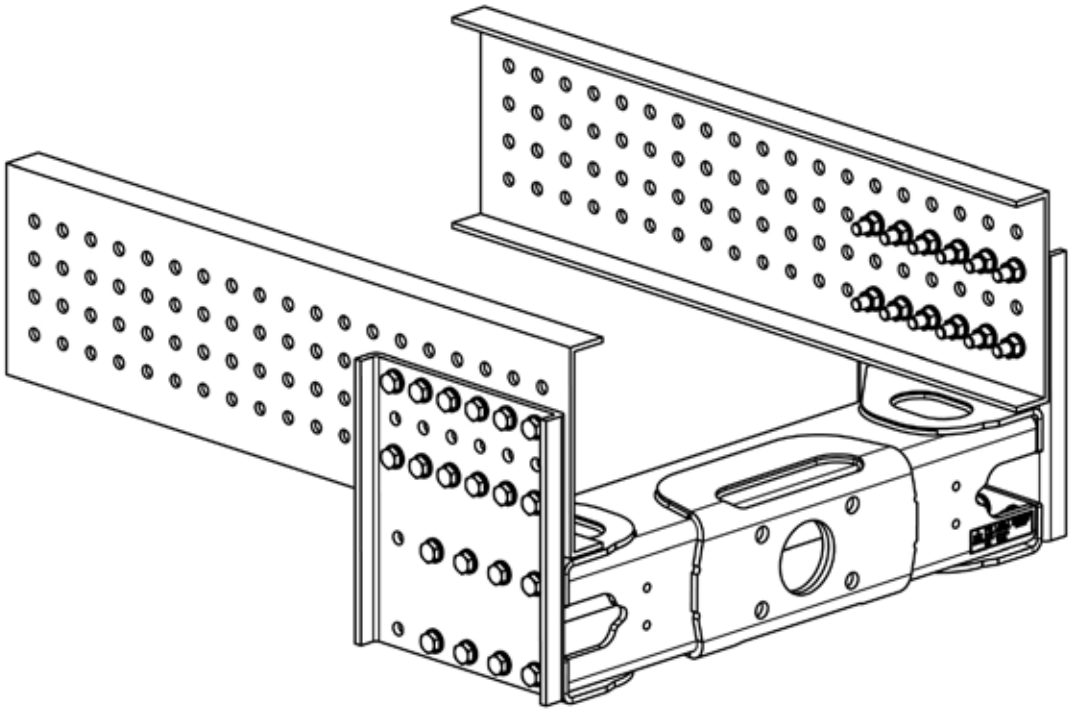


Install the coupling head about 100 mm below the lower surface of the vehicle's frame with these side plates.
The side bars can be used to move the drawbeam forward by about 50 mm.
Delivered in pairs.

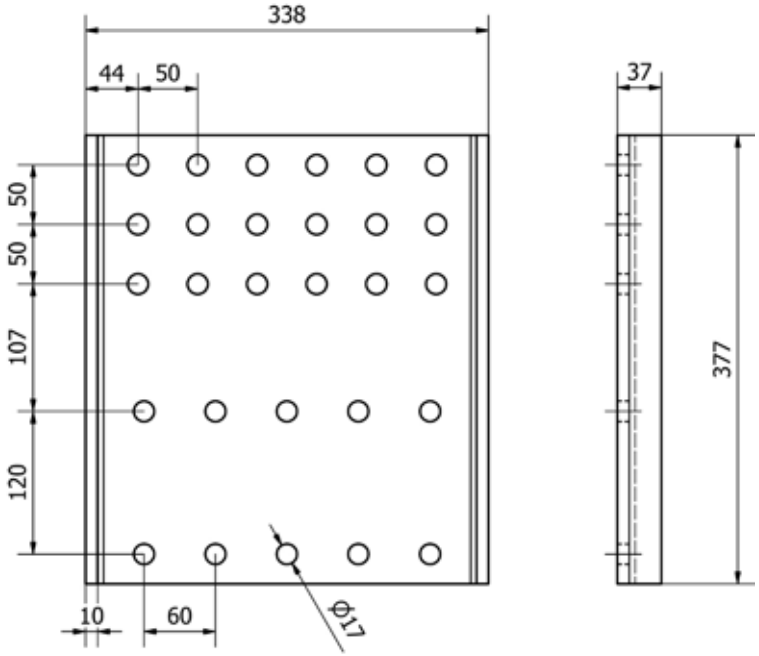
Install the side plate on the frame with at least 10 bolts (M16), leaving at least one of the middle holes unused.

Required bolt kit TAV728

Side plate TAV701MB Height 377 mm, width 338 mm and thickness 10 mm



TAV701MB

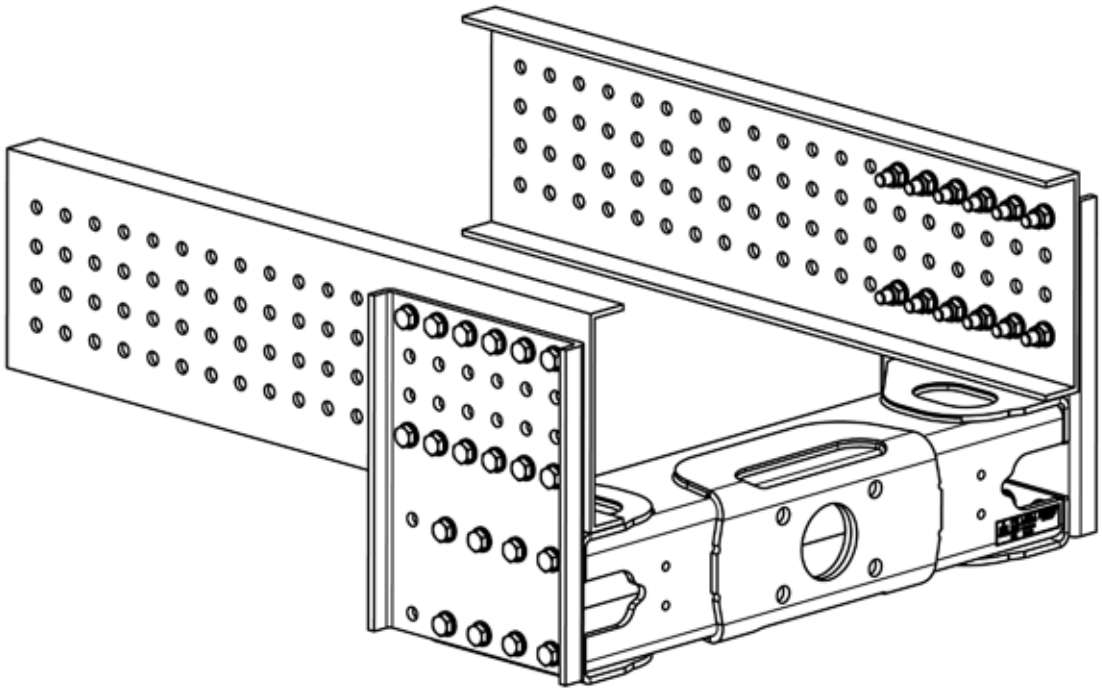


Install the coupling about 100 mm below the lower surface of the vehicle's frame with these side plates.

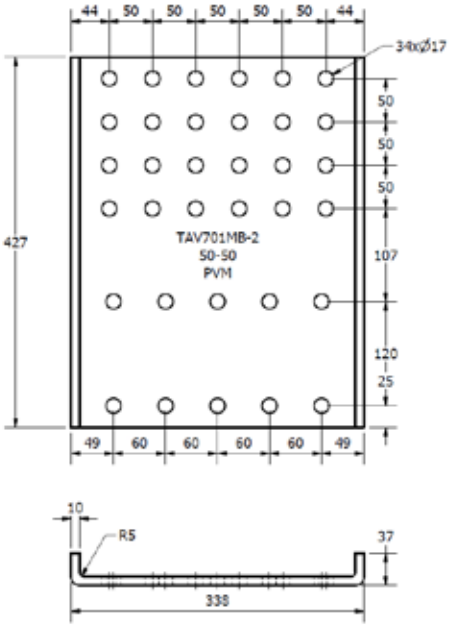
Install the side plate on the frame with at least 12 pcs (M16).

Required bolt kit TAV728-2.

Side plate TAV701MB-2 Height 427 mm, width 338 mm and thickness 10 mm



TAV701MB-2

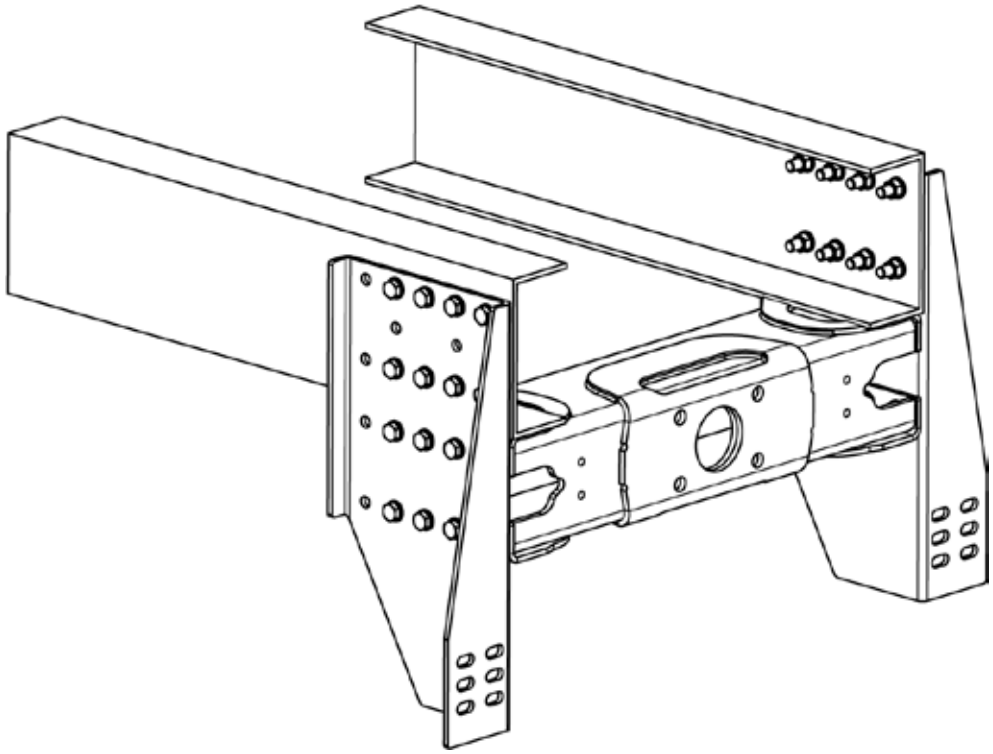


Install the coupling about 100 mm below the lower surface of the vehicles' frame with these side plates.

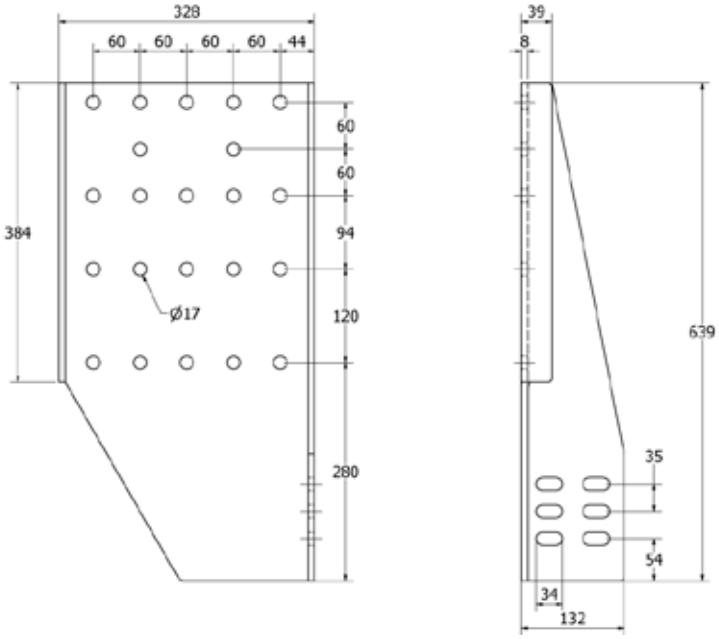
Install the side plate on the frame with at least 12 pcs (M16).

Required bolt kit TAV728-2.

Side plate TAV702 (DU) Height 639 mm, width 328/338 mm and thickness 8 mm



TAV702



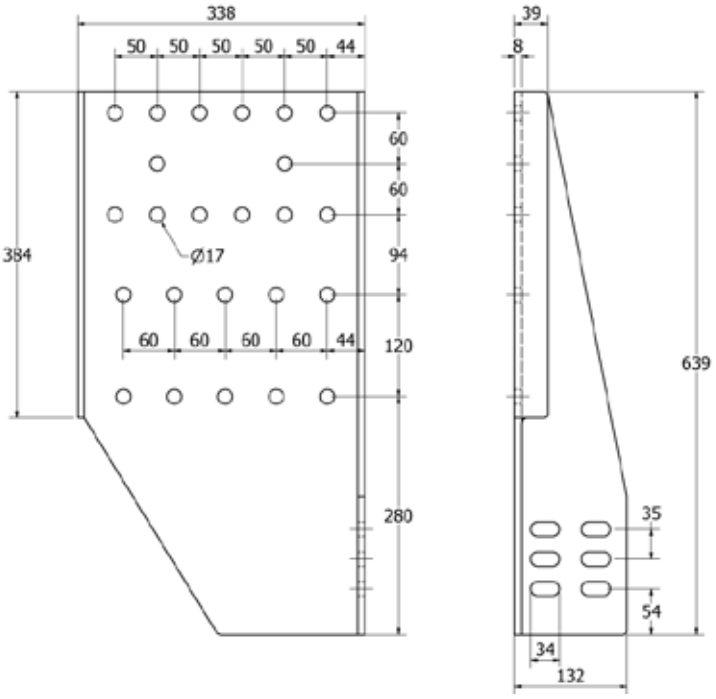
Both the drawbeam and the underrun protection can be installed on the side plates.

Install the drawbeam below the vehicle's frame. The coupling head installation height is about 100 mm below the lower surface of the frame. The side bars can be used to move the drawbeam forward by about 60 mm. Delivered in pairs. Suitable buffer TAV710.

Install the side plate on the frame with at least 8 bolts (M16), leaving at least one of the middle holes unused.

Required bolt kit TAV729

TAV702-50-60



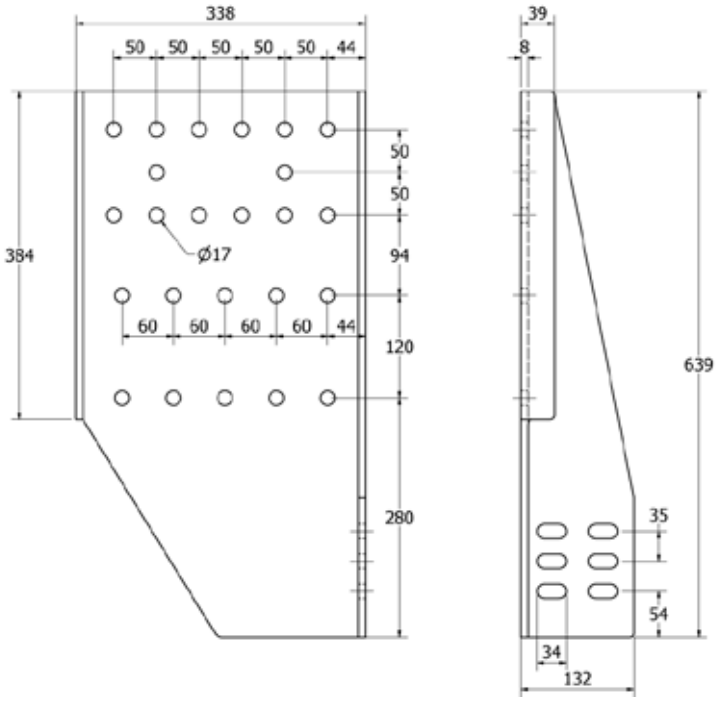
Both the drawbeam and the underrun protection can be installed on the side plates.

Install the drawbeam below the vehicle's frame. The coupling head installation height is about 100 mm below the lower surface of the frame. The side bars can be used to move the drawbeam forward by about 60 mm. Delivered in pairs. Suitable buffer TAV710.

Install the side plate on the frame with at least 8 bolts (M16), leaving at least one of the middle holes unused.

Required bolt kit TAV728

TAV702-50-50



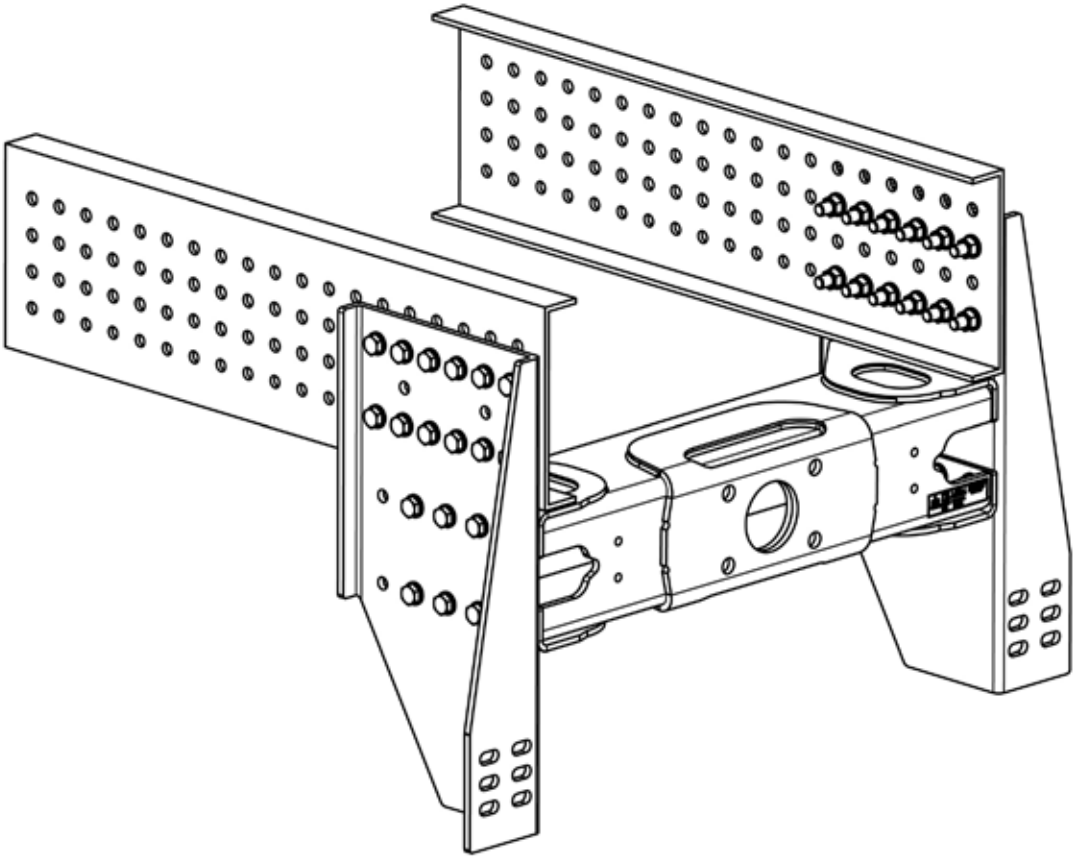
Both the drawbeam and the underrun protection can be installed on the side plates.

Install the drawbeam below the vehicle's frame. The coupling head installation height is about 100 mm below the lower surface of the frame. The side bars can be used to move the drawbeam forward by about 60 mm. Delivered in pairs. Suitable buffer TAV710.

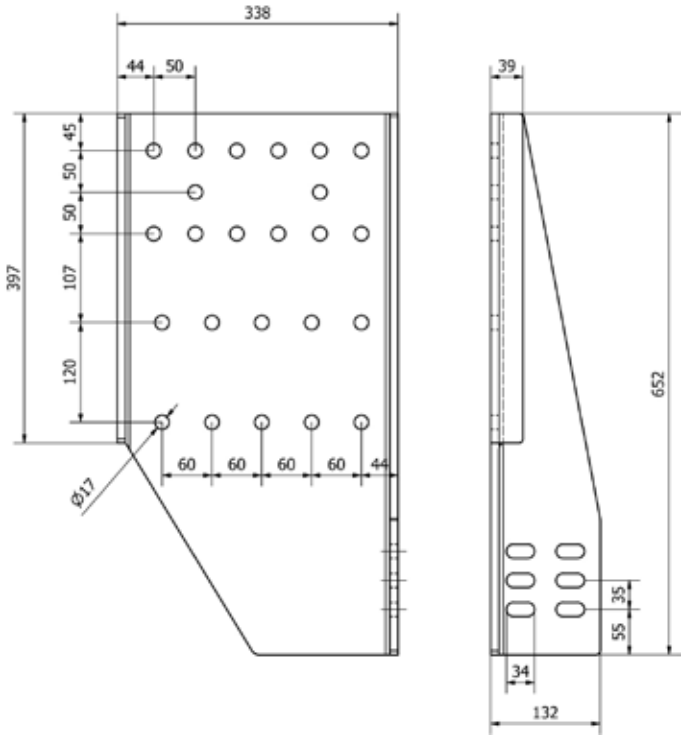
Install the side plate on the frame with at least 8 bolts (M16), leaving at least one of the middle holes unused.

Required bolt kit TAV728

Side plate TAV702MB Height 652 mm, width 338 mm and thickness 10 mm



TAV702MB



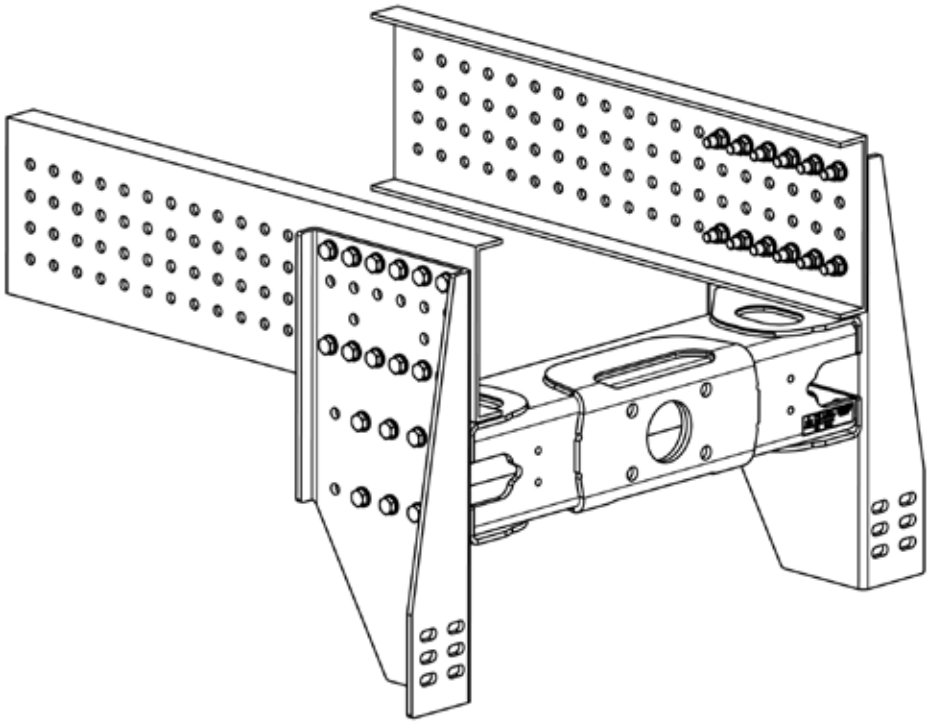
Install the draw beam below the vehicle's frame.

The coupling installation height is about 100 mm below the lower surface of the frame.

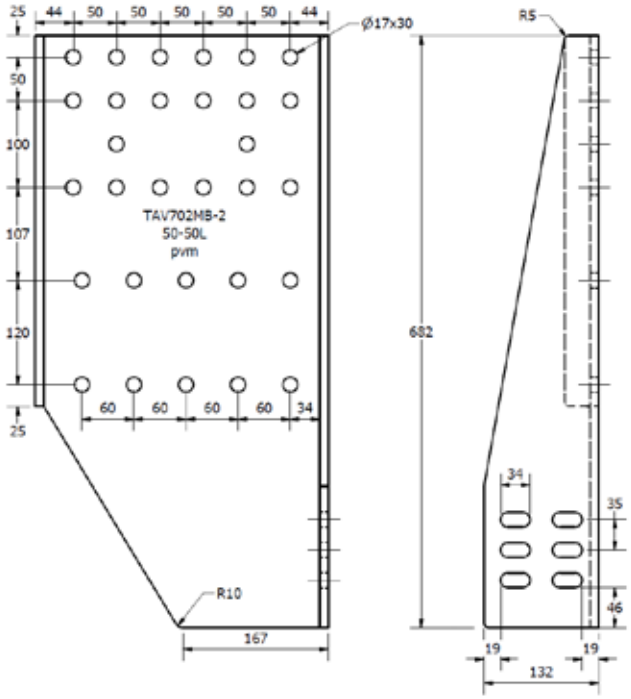
Installa the side plate on the frame with at least 12 pcs (M16) bolts.

Required bolt kit TAV728-2.

Side plate TAV702MB-2 Height 682 mm, width 338 mm and thickness 10 mm.



TAV702MB-2



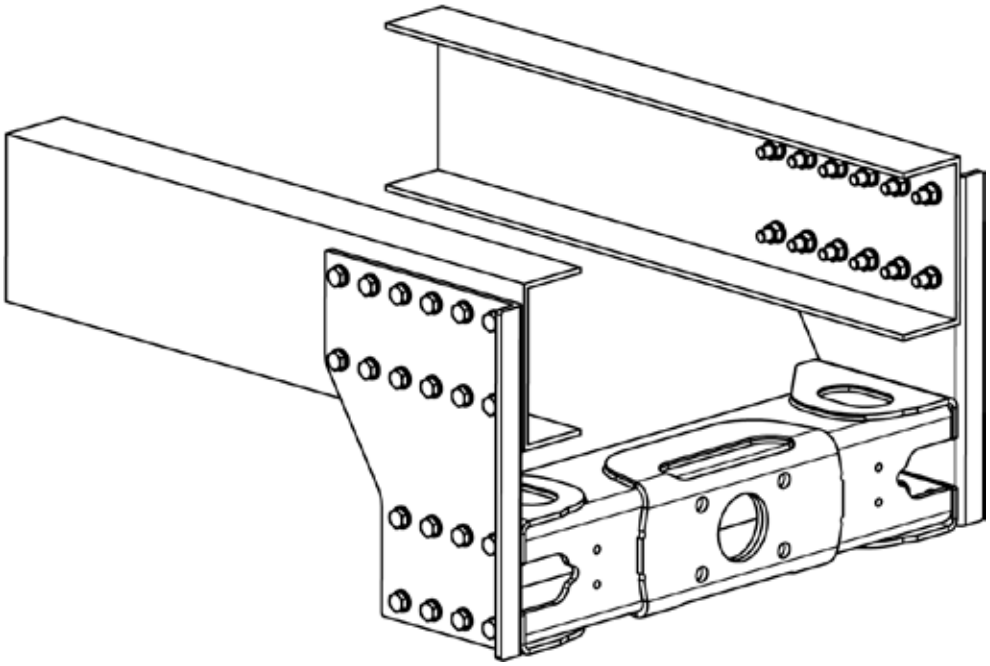
Install the draw beam below the vehicle's frame .

The coupling installation height is about 100 mm below the lower surface of the frame.

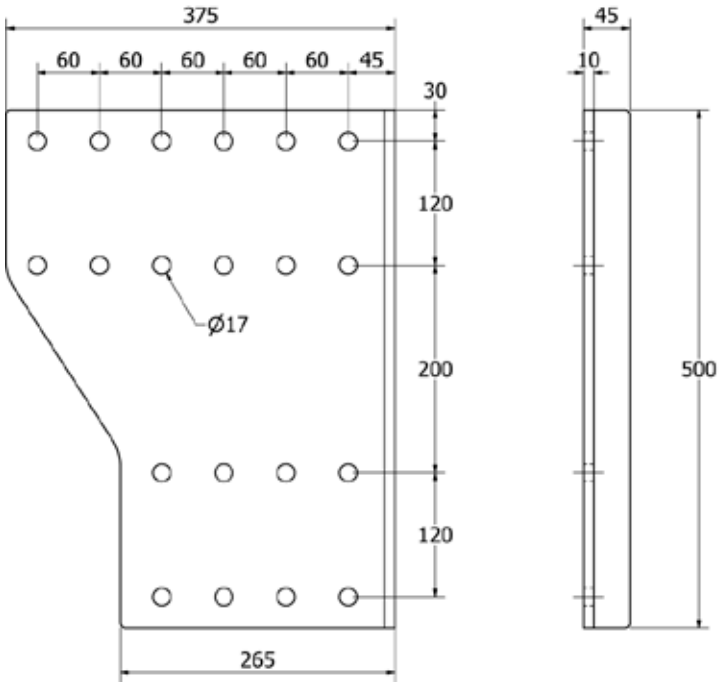
Installa the side plate on the frame with at least 12 pcs (M16) bolts.

Required bolt kit TAV728-2.

Side plate TAV703 (DM) Height 500 mm, width 265/375 mm and thickness 10 mm



TAV703



Install the coupling head about 200 mm below the frame with these side plates.

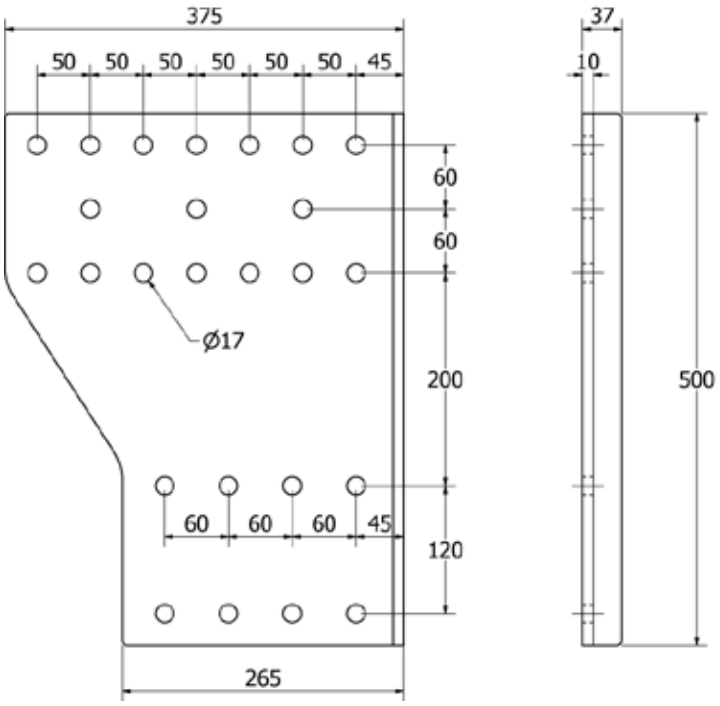
The side plate strengthener can be installed so that it is bent either forward or backwards.

This way, it is possible to move the drawbeam by 120 mm. Delivered in pairs.

Install the side plate on the frame with at least 12 bolts (M16).

Required bolt kit TAV733

TAV703-50-60



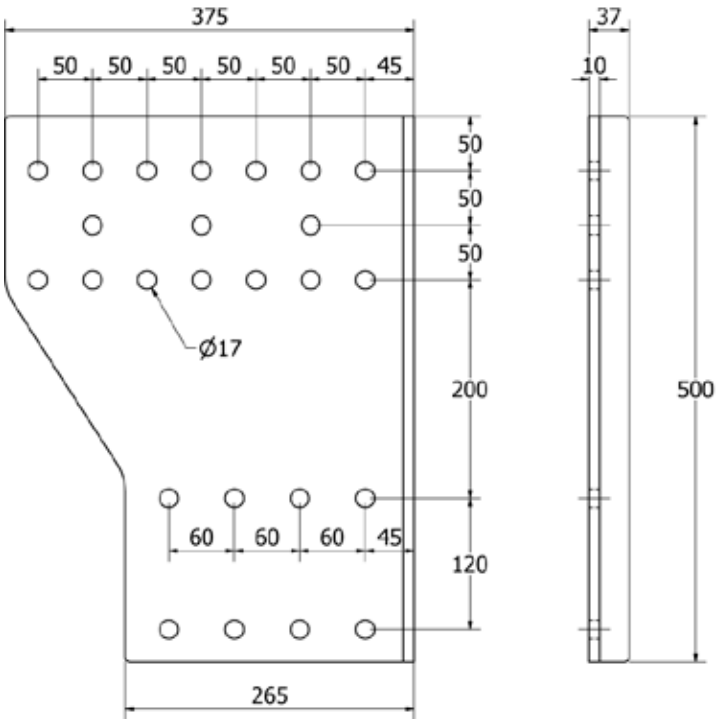
Install the coupling head about 200 mm below the frame with these side plates.

The side plate strengthener can be installed so that it is bent either forward or backwards.
This way, it is possible to move the drawbeam by 120 mm. Delivered in pairs.

Install the side plate on the frame with at least 14 bolts (M16).

Required bolt kit TAV734

TAV703-50-50



Install the coupling head about 200 mm below the frame with these side plates.

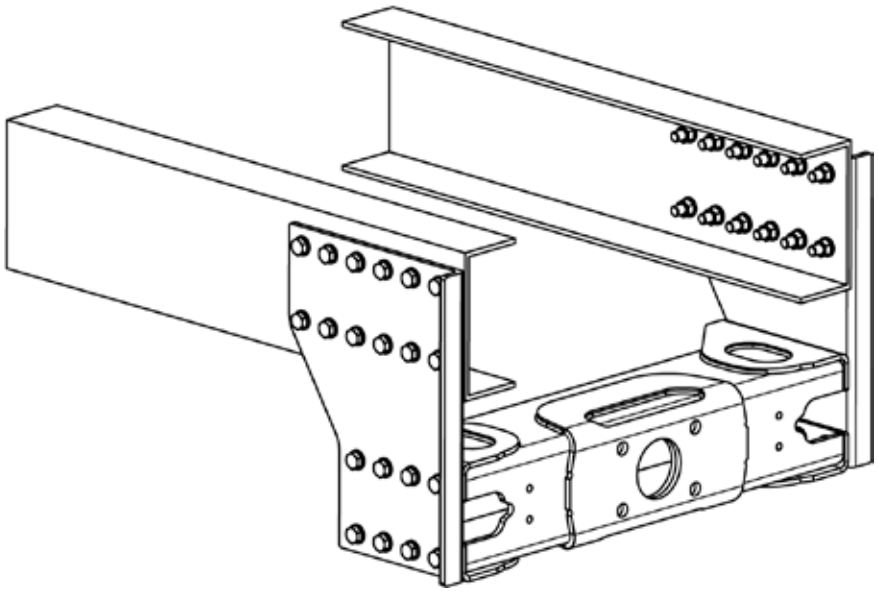
The side plate strengthener can be installed so that it is bent either forward or backwards.

This way, it is possible to move the drawbeam by 120 mm. Delivered in pairs.

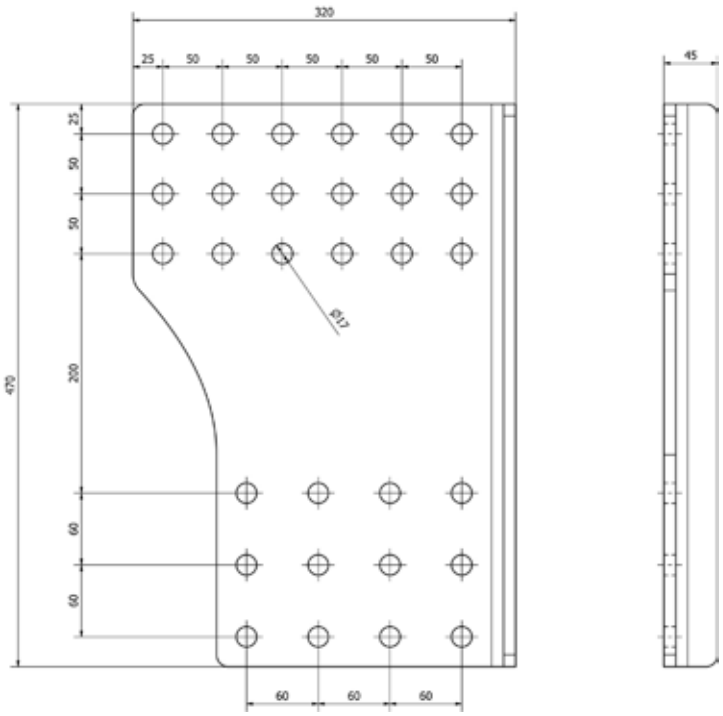
Install the side plate on the frame with at least 14 bolts (M16).

Required bolt kit TAV734

Side plate TAV703SC Height 470, width 250/320 and thickness 10 mm



TAV703SC



Install the coupling head about 200 mm below the frame with these side plates.

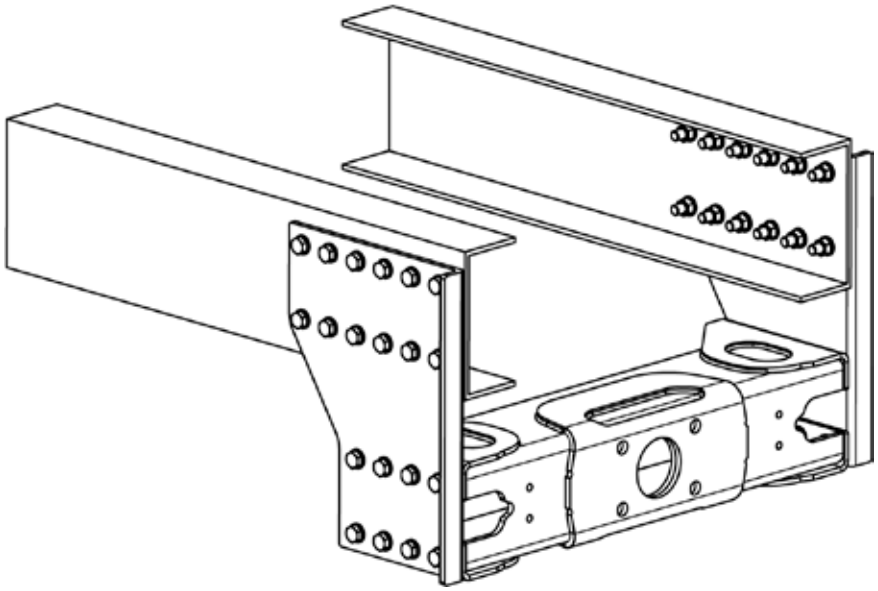
Delivered in pairs.

Install the side plate on the frame on both sides with 14 bolts (M16).

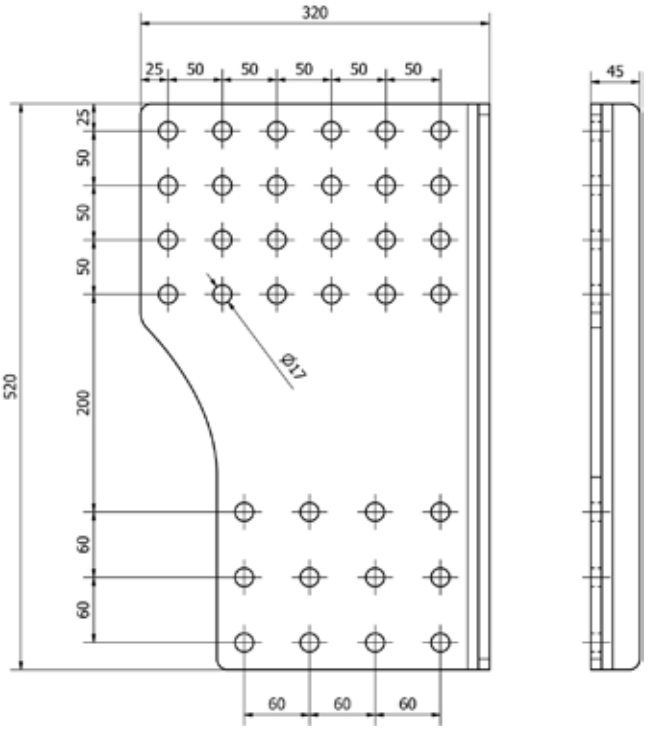
The top and bottom mounting bolt pattern should be used for mounting the side plate.

Required bolt kit TAV734

Side plate TAV703MB Height 520, width250/320 and thickness 10 mm



TAV703MB



Install the coupling head about 200 mm below the frame with these side plates.

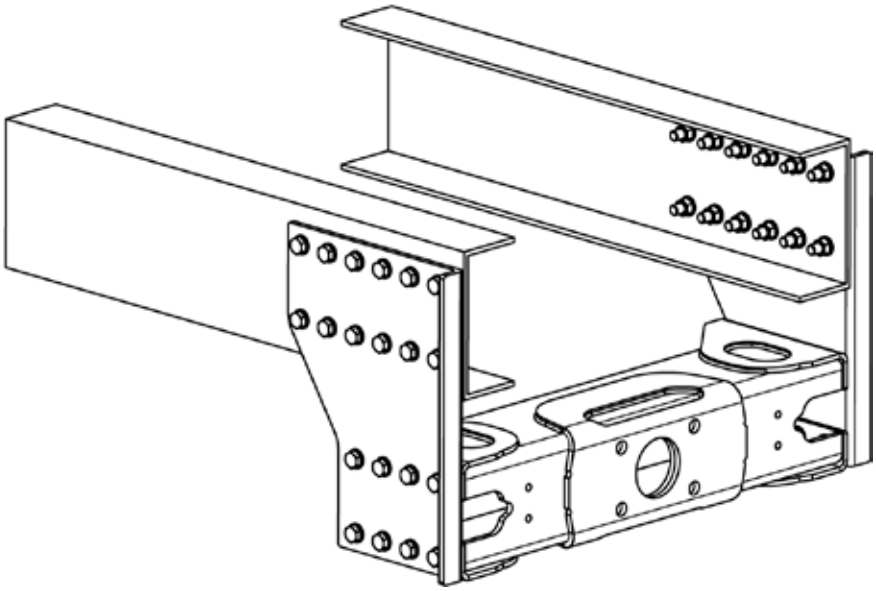
Delivered in pairs.

Install the side plate on the frame on both sides with 14 bolts (M16).

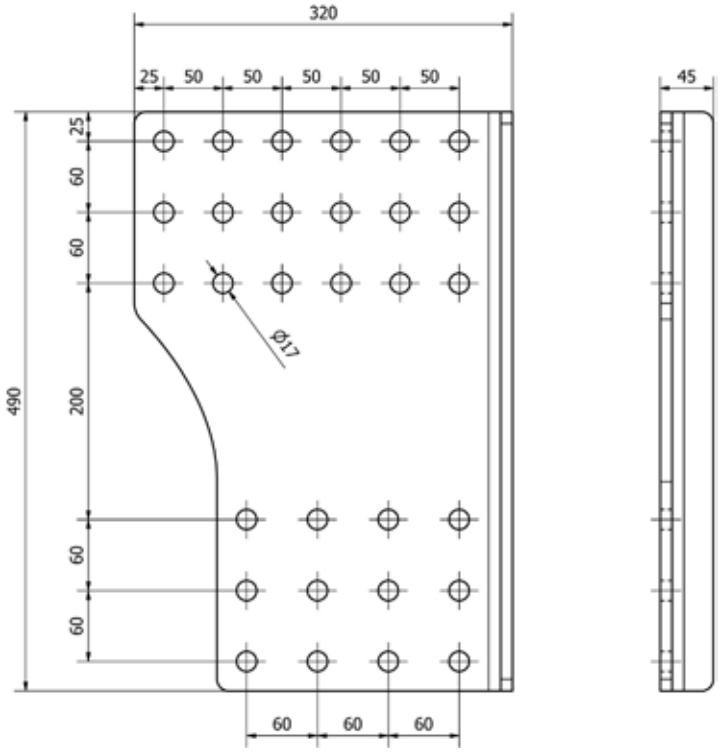
The top and bottom mounting bolt pattern should be used for mounting the side plate.

Required bolt kit TAV734

Side plate TAV703VO Height 490, width 250/320 and thickness 10 mm



TAV703VO



Install the coupling head about 200 mm below the frame with these side plates.

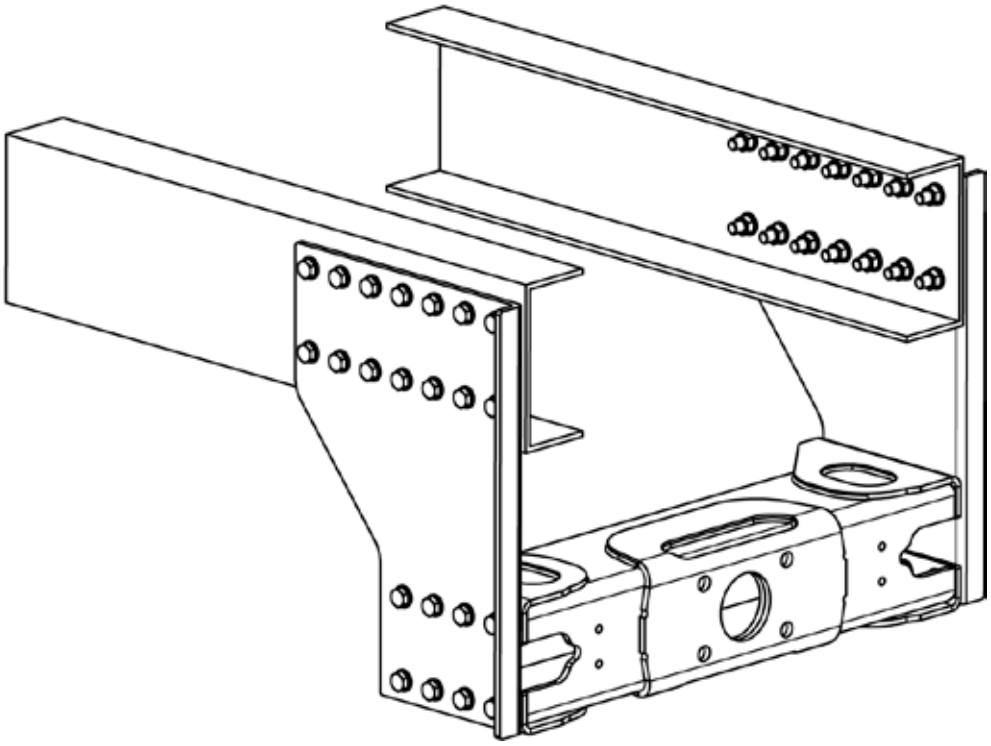
Delivered in pairs.

Install the side plate on the frame on both sides with 14 bolts (M16).

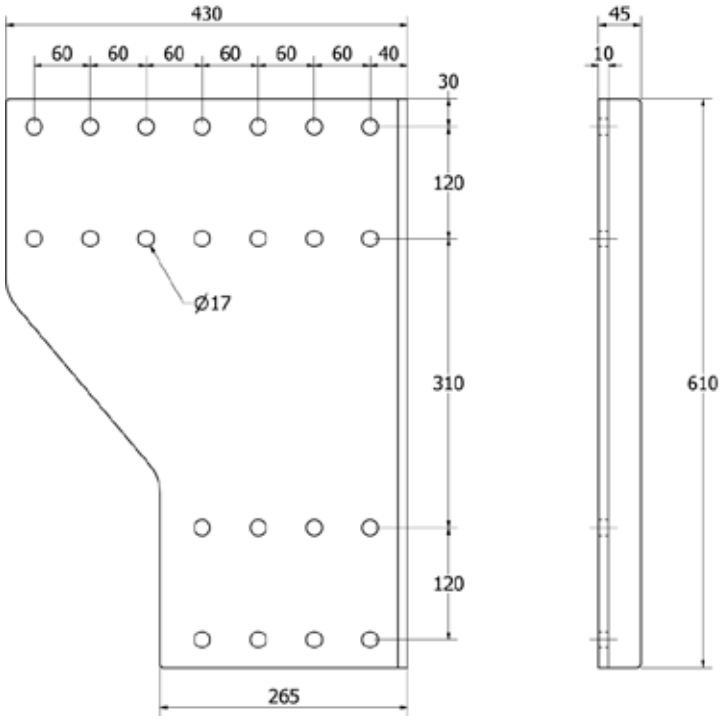
The top and bottom mounting bolt pattern should be used for mounting the side plate.

Required bolt kit TAV734

Side plate TAV704 (DL) Height 610 mm, width 265/430 mm and thickness 10 mm



TAV704



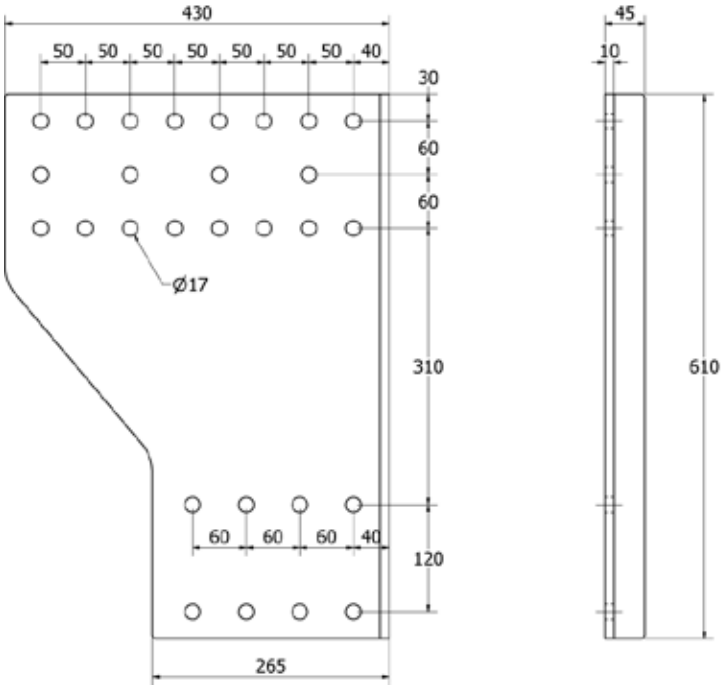
Install the coupling head about 300 mm below the frame with these side plates.

The side plate strengthener can be installed so that it is bent either forward or backwards. This way, it is possible to move the drawbeam by 180 mm. Delivered in pairs.

Install the side plate on the frame with at least 14 bolts (M16).

Required bolt kit TAV734

TAV704-50-60



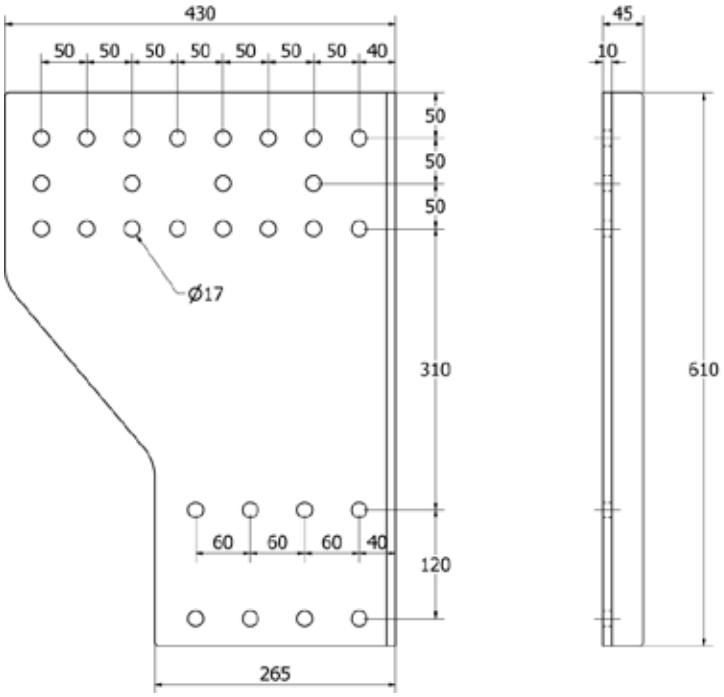
Install the coupling head about 300 mm below the frame with these side plates.

The side plate strengthener can be installed so that it is bent either forward or backwards. This way, it is possible to move the drawbeam by 170 mm. Delivered in pairs.

Install the side plate on the frame with at least 16 bolts (M16).

Required bolt kit TAV734-5

TAV704-50-50



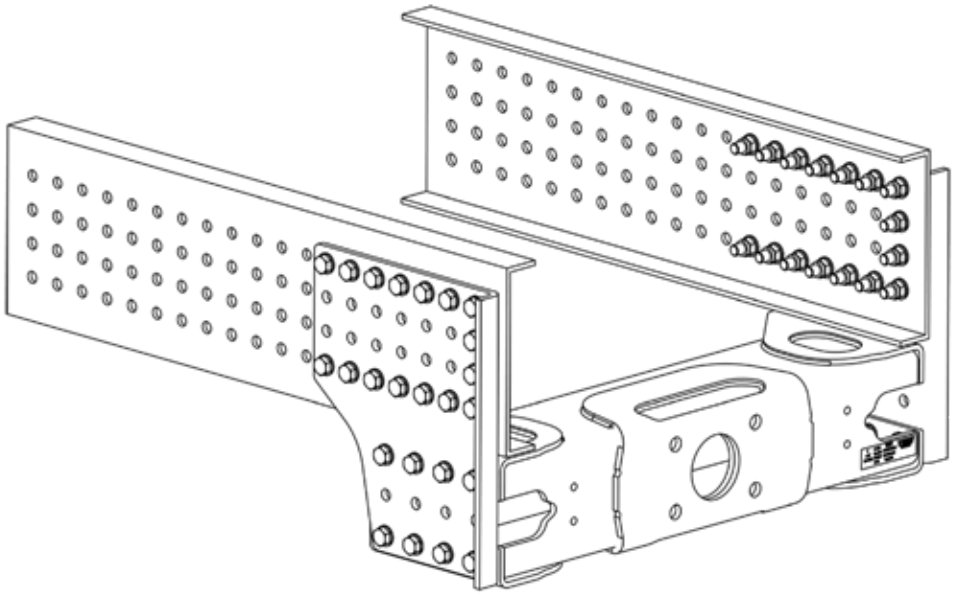
Install the coupling head about 300 mm below the frame with these side plates.

The side plate strengthener can be installed so that it is bent either forward or backwards. This way, it is possible to move the drawbeam by 170 mm. Delivered in pairs.

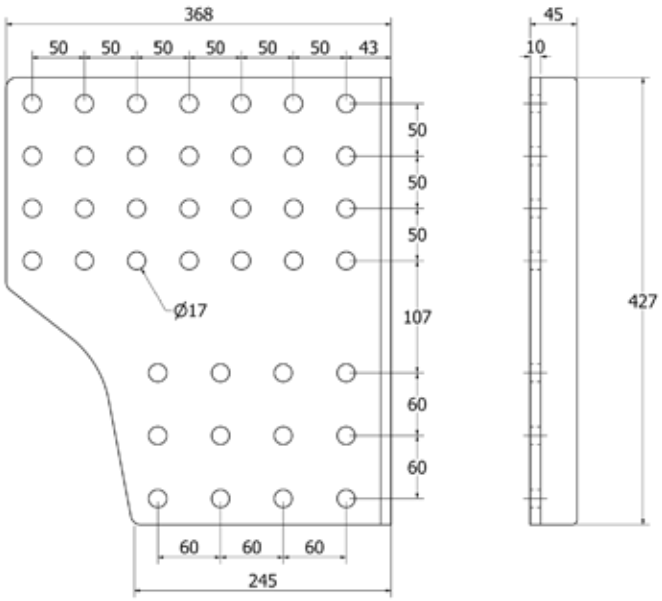
Install the side plate on the frame with at least 16 bolts (M16).

Required bolt kit TAV734-5

Side plate TAV705 Height 427 mm, width 245/368 mm and thickness 10 mm



TAV705



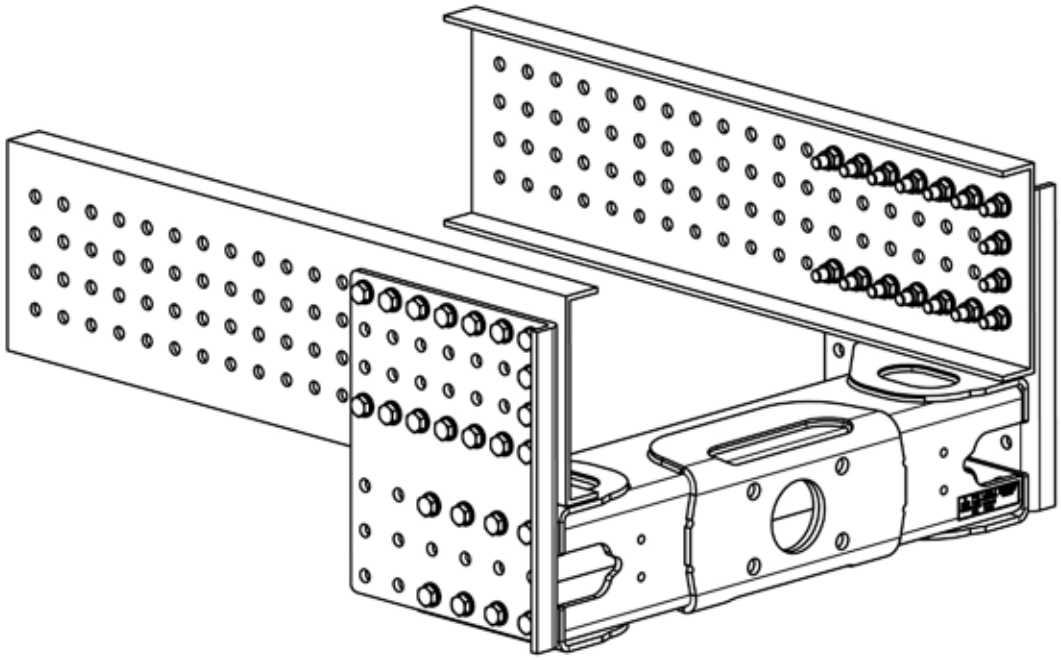
Install the coupling head about 100 mm below the lower surface of the vehicle's frame with these side plates.

Delivered in pairs.

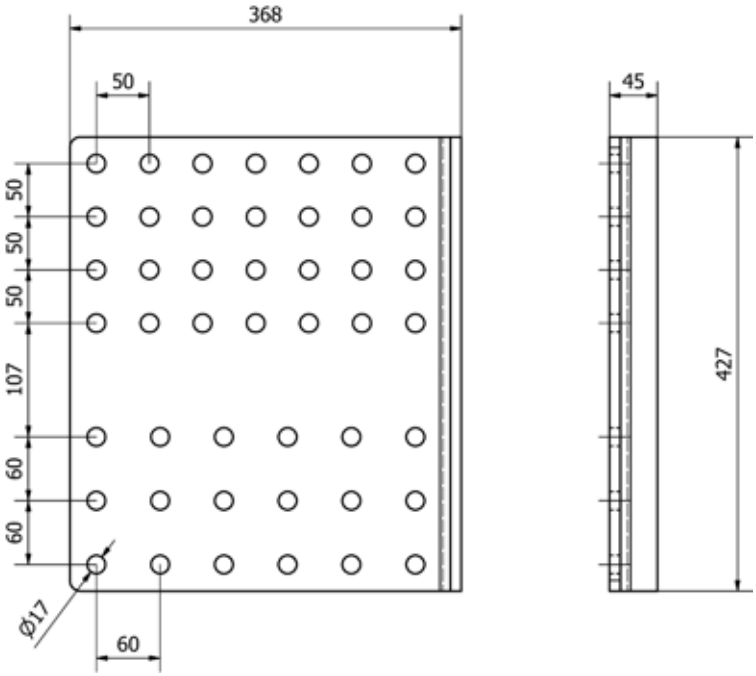
Install the side plate on the frame with at least 16 bolts (M16).

Required bolt kit 2 x TAV729

Side plate TAV705-2 Height 427 mm, width 368 mm and thickness 10 mm



TAV705-2

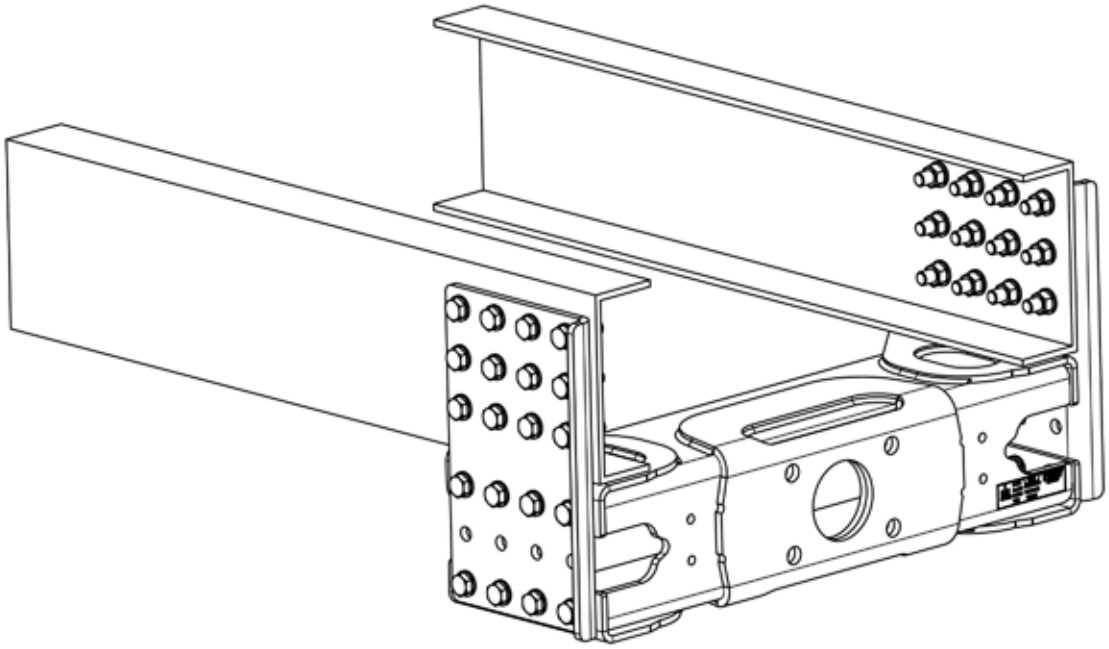


Install the coupling about 100 mm below the lower surface of the vehicle's frame with these side plates.

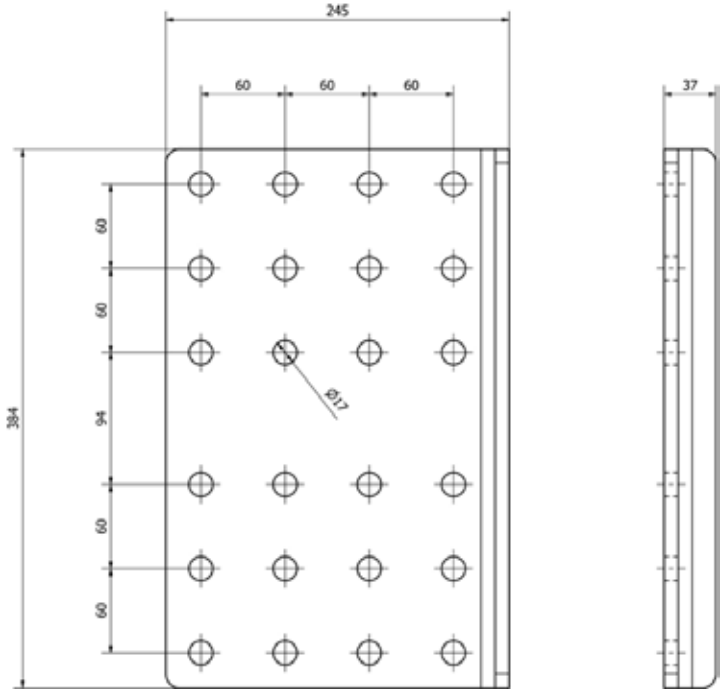
Install the side plate on the frame with at least 16 bolts (M16).

Required bolt kit 2 x TAV729

Side plate TAV706 Height 377, width 265 and thickness 10 mm



TAV706



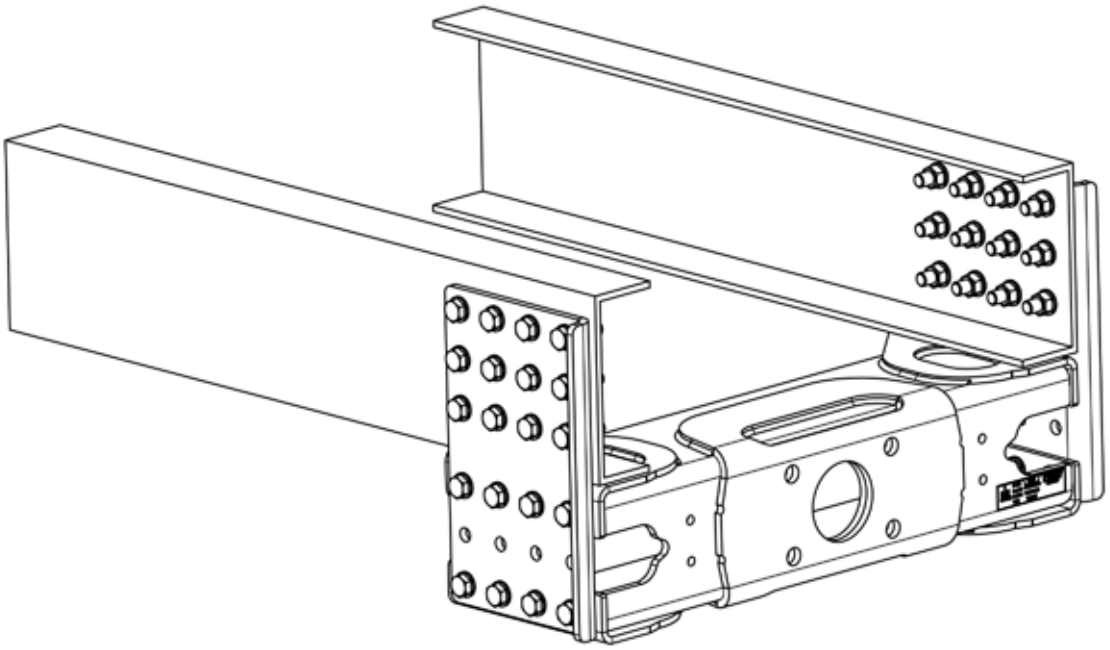
Install the coupling about 100 mm below the lower surface of the vehicle's frame with these side plates.

Install the side plate on the frame on both sides with 12 bolts (M16).

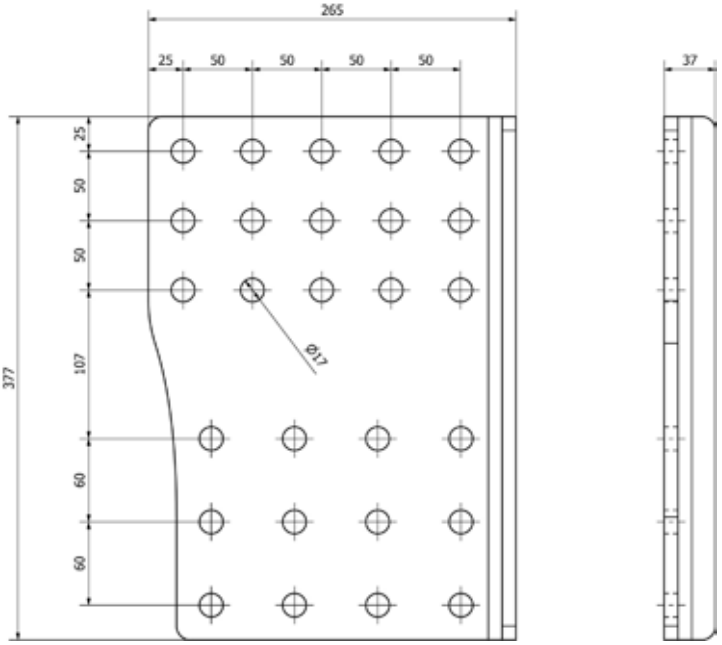
The top and bottom mounting bolt pattern should be used for mounting the side plate.

Required bolt kit TAV728-2

Side plate TAV706SC Height 377, width 265 and thickness 10 mm



TAV706SC



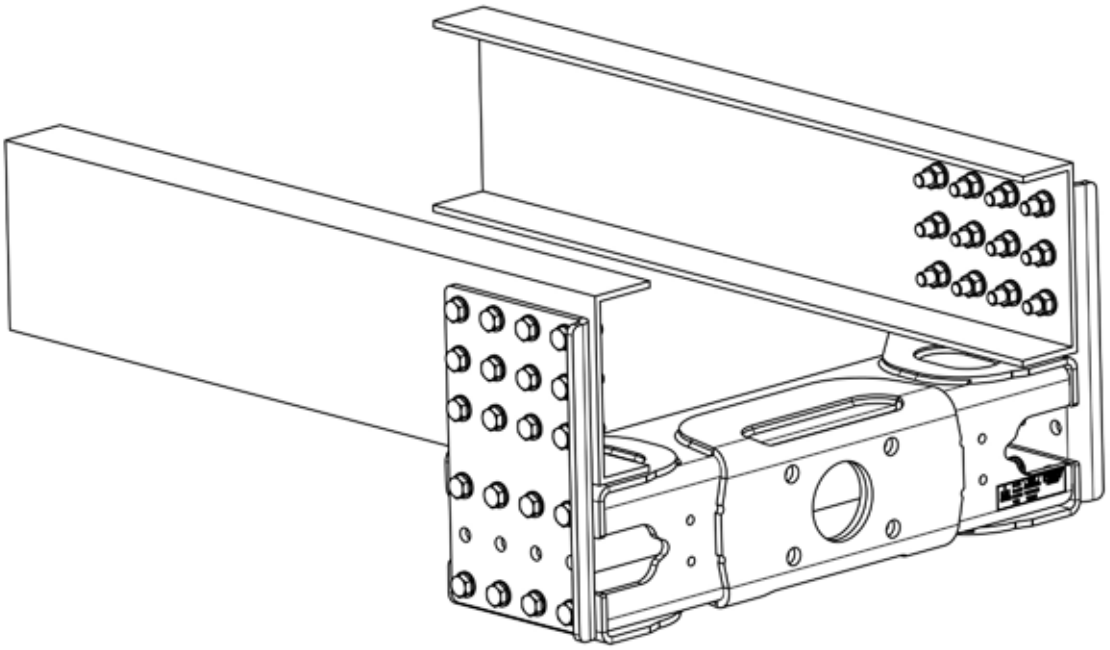
Install the coupling about 100 mm below the lower surface of the vehicle's frame with these side plates.

Install the side plate on the frame on both sides with 12 bolts (M16).

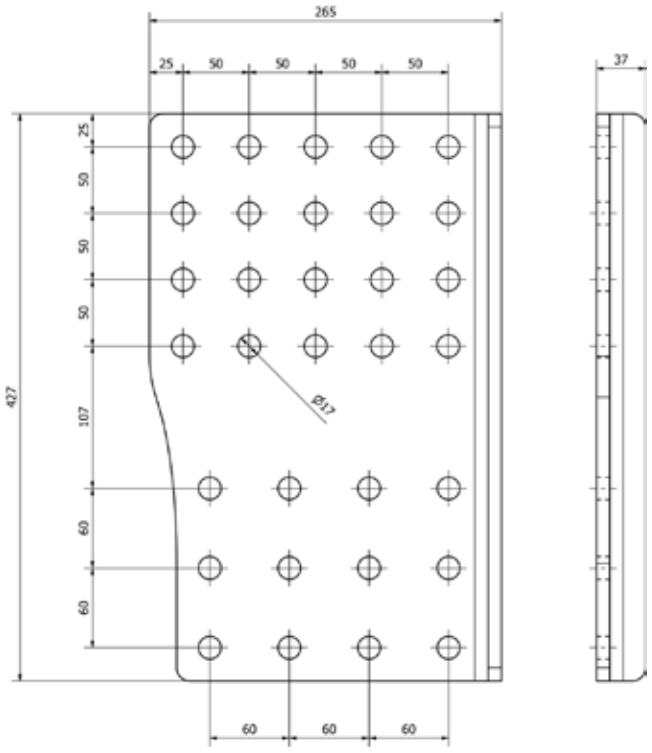
The top and bottom mounting bolt pattern should be used for mounting the side plate.

Required bolt kit TAV728-2

Sideplate TAV706MB Height 427, width 265 and thickness 10 mm



TAV706MB



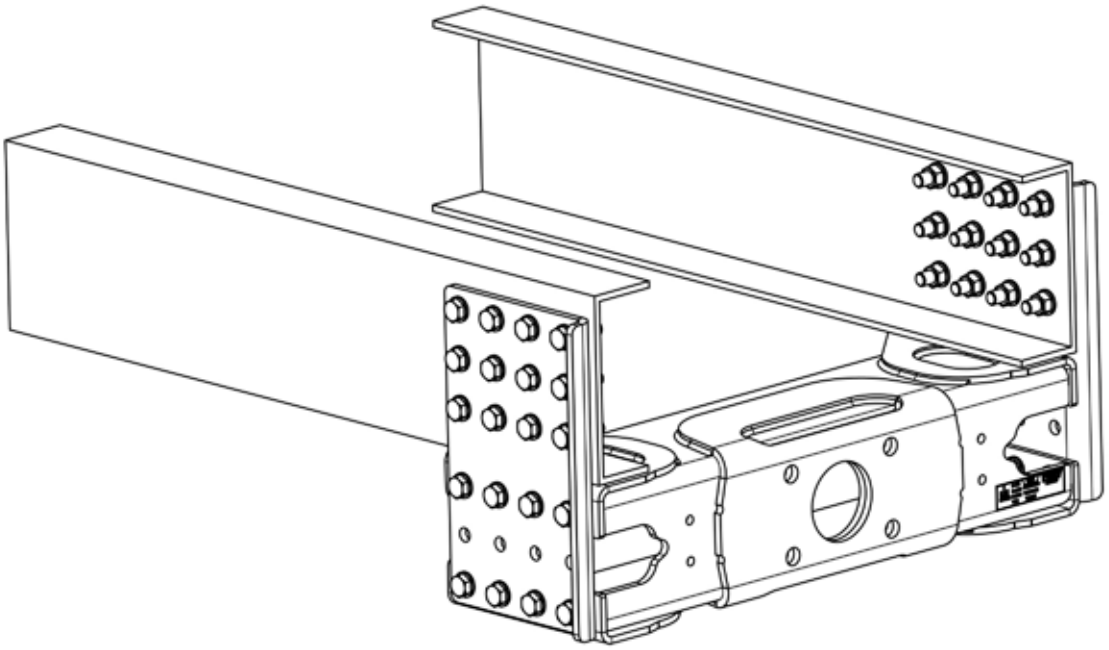
Install the coupling about 100 mm below the lower surface of the vehicle's frame with these side plates.

Install the side plate on the frame on both sides with 12 bolts (M16).

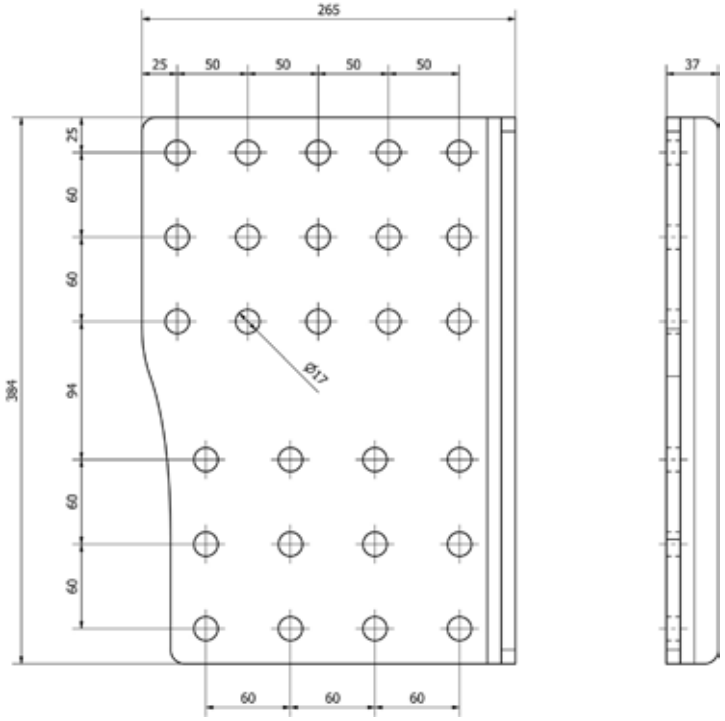
The top and bottom mounting bolt pattern should be used for mounting the side plate.

Required bolt kit TAV728-2

Sideplate TAV706VO Height 384, width 265 and thickness 10 mm



TAV706VO



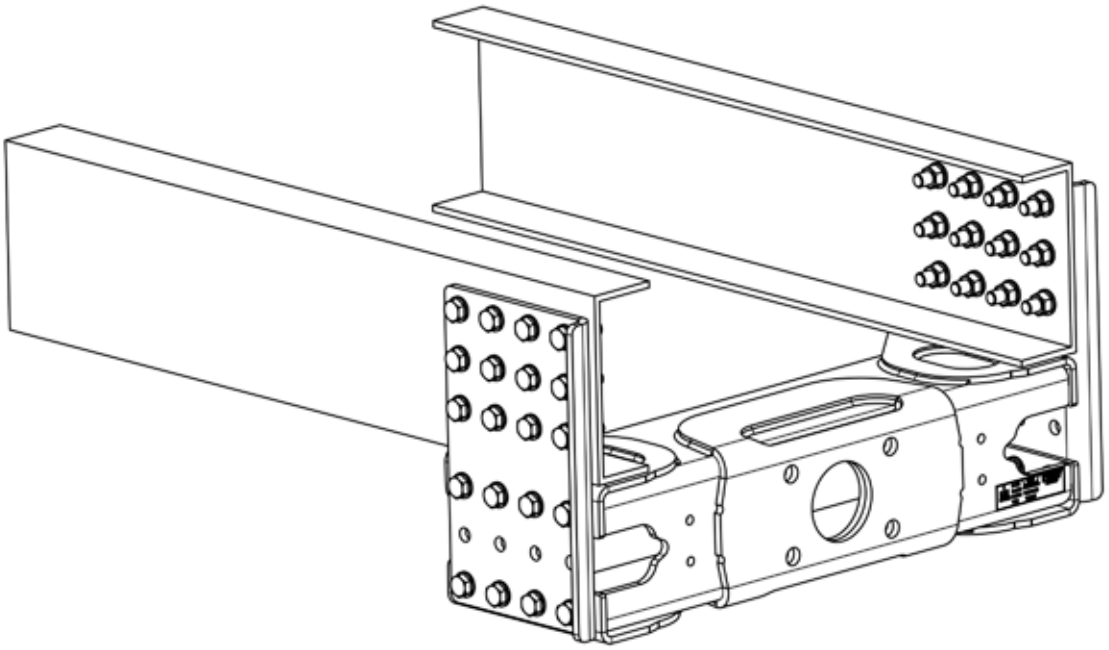
Install the coupling about 100 mm below the lower surface of the vehicle's frame with these side plates.

Install the side plate on the frame on both sides with 12 bolts (M16).

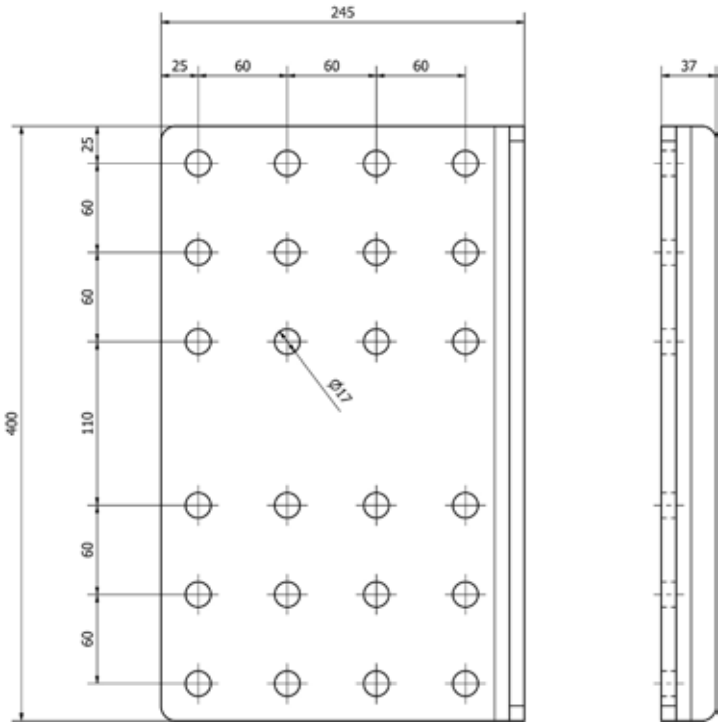
The top and bottom mounting bolt pattern should be used for mounting the side plate.

Required bolt kit TAV728-2

Sideplate TAV706DAF Height 400, width 245 and thickness 10 mm



TAV706DAF



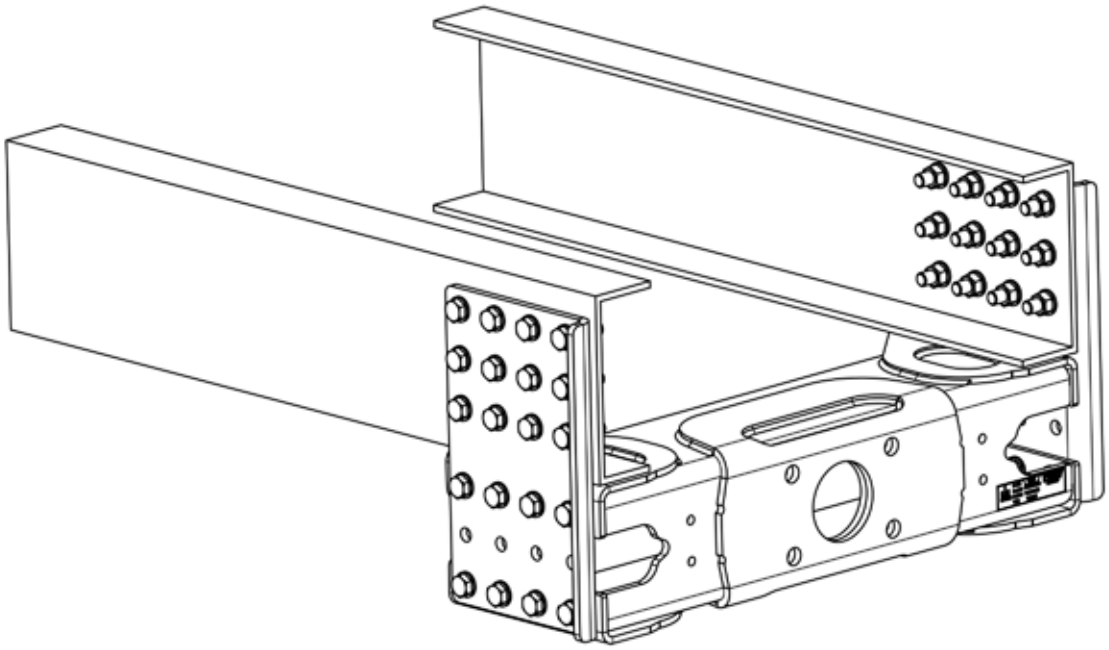
Install the coupling about 100 mm below the lower surface of the vehicle's frame with these side plates.

Install the side plate on the frame on both sides with 12 bolts (M16).

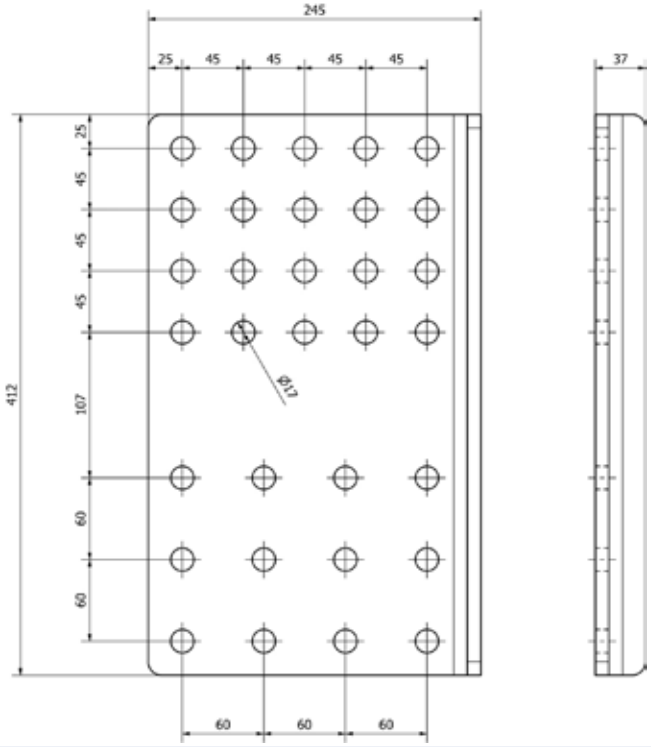
The top and bottom mounting bolt pattern should be used for mounting the side plate.

Required bolt kit TAV728-2

Sideplate TAV706IV Height 412, width 245 and thickness 10 mm



TAV706IV



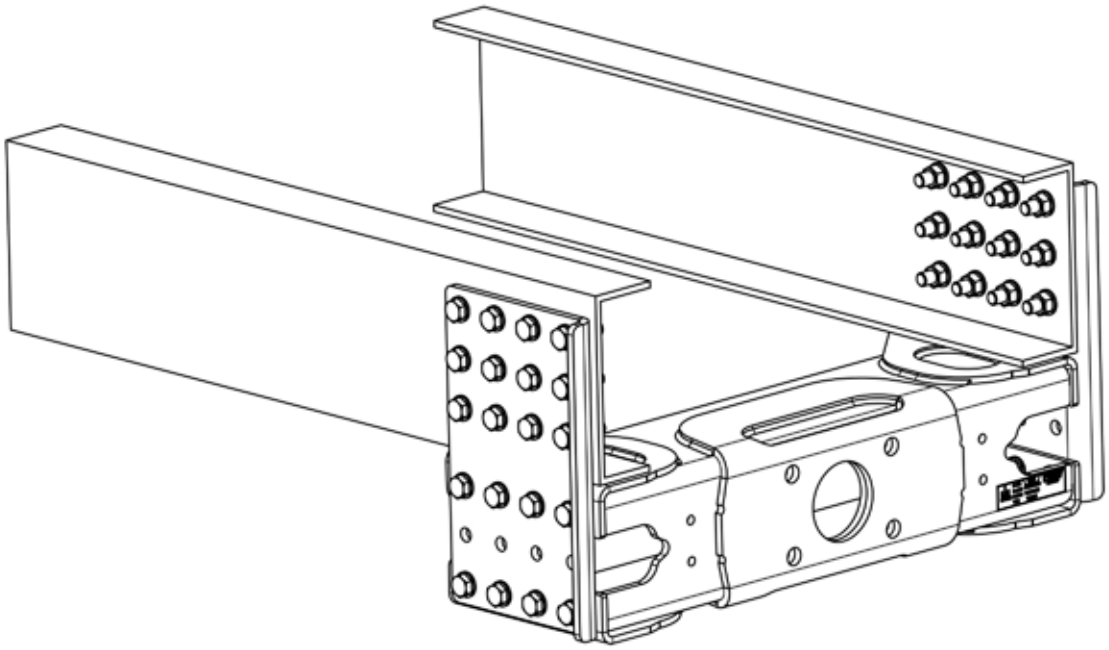
Install the coupling about 100 mm below the lower surface of the vehicle's frame with these side plates.

Install the side plate on the frame on both sides with 14 bolts (M16).

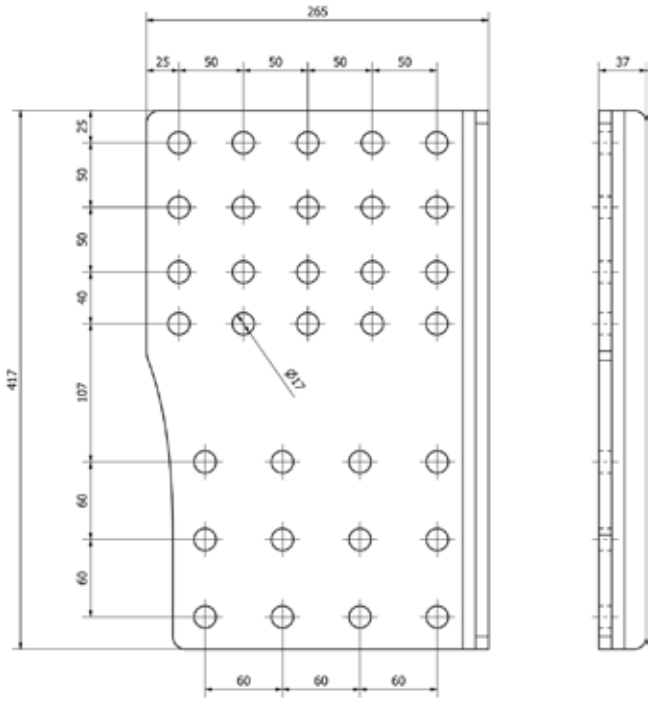
The side plate is mounted to the frame using the outer holes of the pattern (14 bolts).

Required bolt kit TAV728-3

Sideplate TAV706MAN Height 417, width 265 and thickness 10 mm



TAV706MAN



Install the coupling about 100 mm below the lower surface of the vehicle's frame with these side plates.

Install the side plate on the frame on both sides with 14 bolts (M16).

The side plate is mounted to the frame using the outer holes of the pattern (14 bolts).

Required bolt kit TAV728-3

6.3 Bolt kits for drawbeams and side plates

Two bolt kits are required to install the drawbar and side plates:

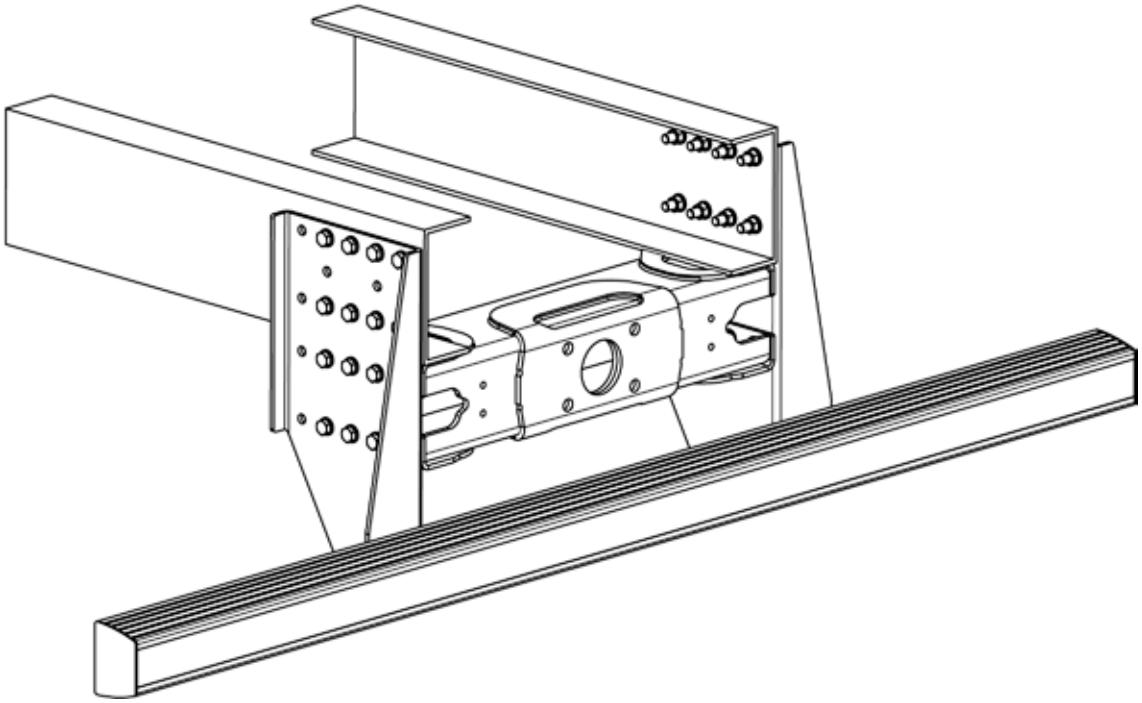
1. Bolt kit for mounting the side plate to the vehicle body -> select a set according to the side plate specific instructions.

2. Bolt kit for mounting the drawbar to the side plates -> side plates are fastened to the drawbar with TAV729 bolt set.

Product code	**Bolts**			**Nuts**	**Washers**	**Spacer plates**		
	M16x55	M16x65	N16x75	M16	M16-17	1 mm	2 mm	6 mm
TAV728	20			20	60			
TAV728-2	24			24	72			
TAV728-3	28			28	84			
TAV729	16			16	48			
TAV730		16		16	64			
TAV731			16	16	48			
TAV732		24		24	96	2	2	2
TAV732-5		28		28	112	2	2	2
TAV734		28		28	84			
TAV734-5		32		32	96			

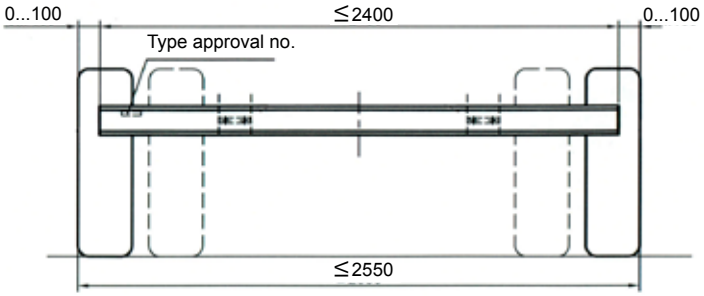
Hardness of the the bolts, nuts and washers is 10.9.

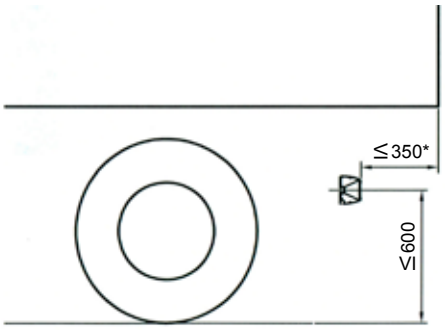
6.4 TAV710 Underrun protection

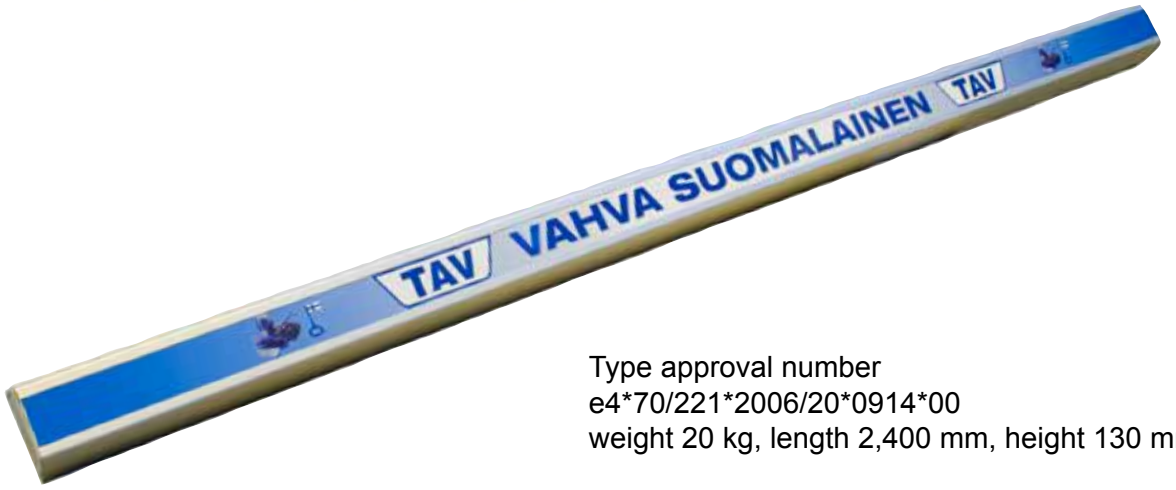


Install the underrun protection on the TAV702 side plates or, with separate fasteners, on the vehicle's frame.

The TAV710 underrun protection is delivered with all installation fittings.





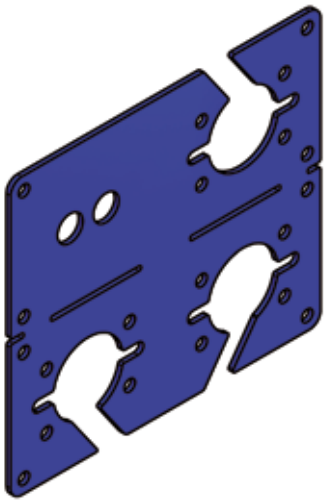


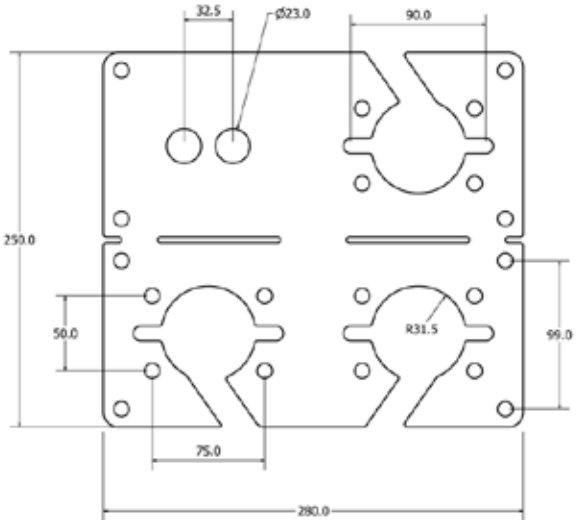
Type approval number
e4*70/221*2006/20*0914*00
weight 20 kg, length 2,400 mm, height 130 mm

6.5 TAV735 DUOMATIC installation plate

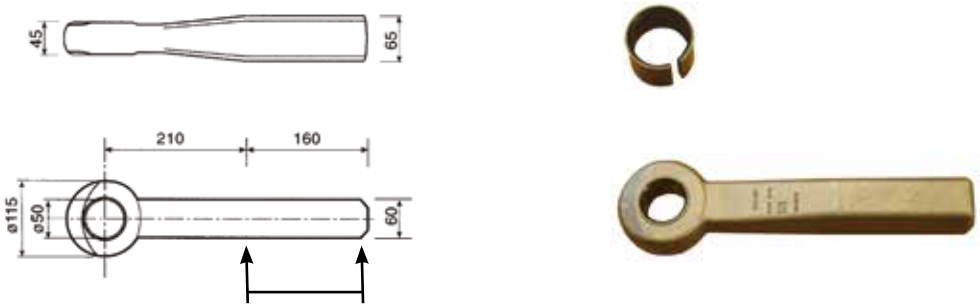
The installation plate can be used to install the required compressed air and electrical connectors in the vehicle.

The installation plate can be modified as needed.





7. TAV400 WELDED DRAWBAR EYE



NOTE! welding area

Product no.	Product name
TAV400	Drawbar eye
TAV401	50 mm Drawbar eye ferrule
TAV402	50 mm Drawbar eye blind ferrule

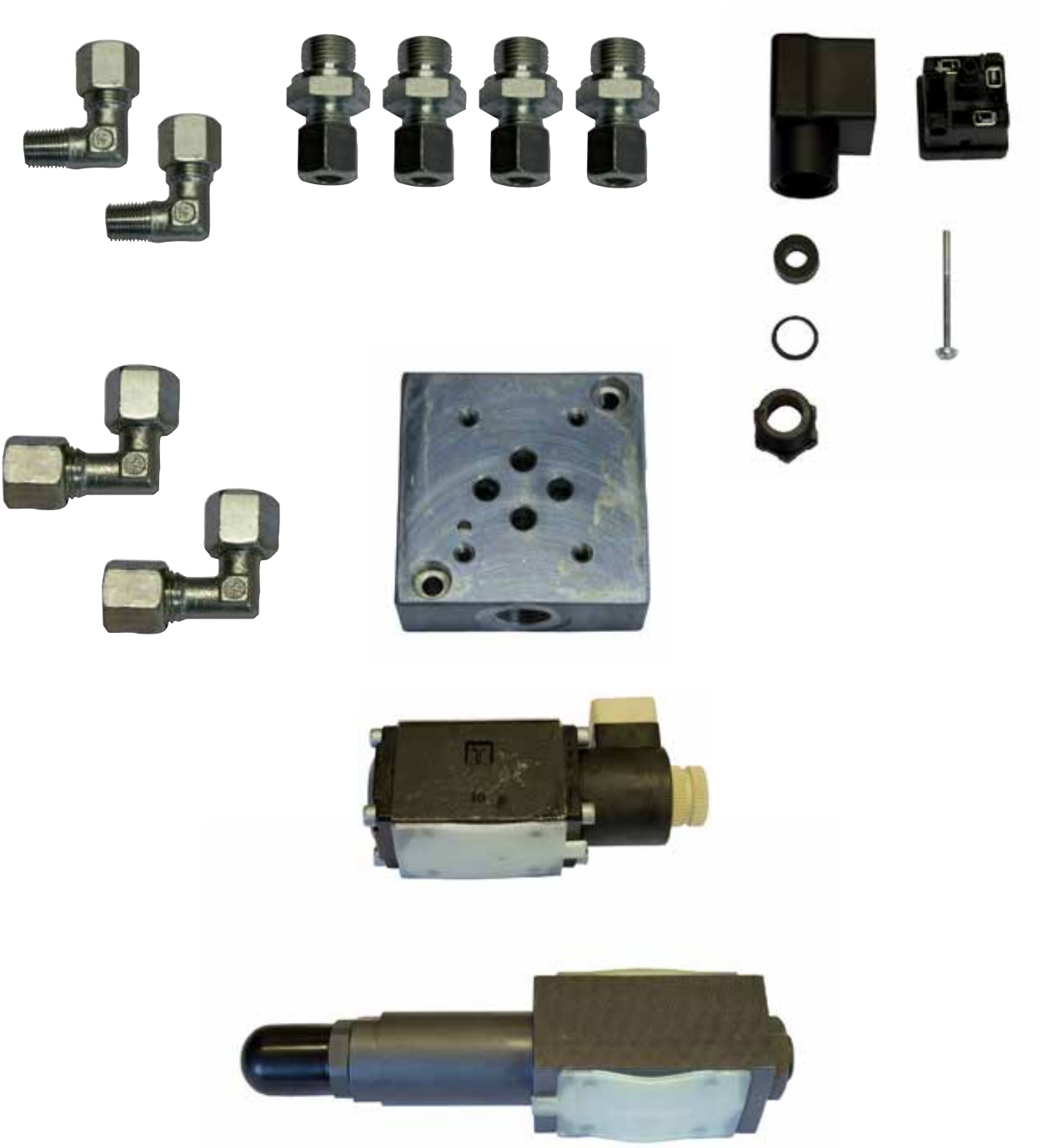
TECHNICAL SPECIFICATIONS

Weight: 10.2 kg
D 190 kN
The type approval number is e17*94/20*94/20*0001*01.
Welding according to the drawbar manufacturer's instructions

8. TAV5990 Hydraulic kit

The TAV50SR coupling head can be used hydraulically with the TAV5990 hydraulic kit.

Not suitable for road traffic!



M. KORTE OY
Menotie 2
FI-33470 YLÖJÄRVI

PRODUCT WARRANTY
TAV PRODUCTS

Warranty period

The manufacturer (M. Korte Oy) shall provide a two (2) year product warranty on all TAV products under the terms of warranty set out below. The warranty shall be conditional upon compliance of all products with the operation, maintenance and installation instructions provided by the manufacturer in conjunction with the deal.

Terms of warranty

1. The warranty period defined by the manufacturer shall begin on the date of purchase of the product when the product is sold to the end user for the first time.
2. The warranty shall cover the raw material and faults due to manufacturing defects.
3. The warranty shall not cover faults due to missing or insufficient maintenance, faulty repairs or changes in the product structure or normal wear and deterioration.
4. The warranty shall not apply if the product has been misused or the instructions for use have not been followed.
5. The warranty shall not cover disruptions in the operation of the product due to exceptional weather conditions.
6. Minor faults in the outer surfaces that do not affect the strength or usability of the product as well as small irregularities in the paint or superficial faults due to normal use shall not be covered by the warranty.
7. Defects or faults arising during transport or due to incorrect storage are not covered by the product warranty.

Measures to be carried out by the purchaser/recipient

1. Make sure that you get the aforementioned instructions in conjunction with delivery at the latest. The instructions are also available at www.tav.fi/lataamo
2. Check the delivered products upon its arrival.
3. Notify immediately of any faults detected in the delivery, including those due to transport (where applicable).
4. If you do not install the product right away, store it in a dry place protected from the weather.
5. Always follow the installation instructions. Use a professional installer. Do not install faulty products.

Examination and compensation

If so desired, the manufacturer can examine faults, damage or deficiencies. If the manufacturer is responsible for the damage or deficiency, the manufacturer has the right, at their own discretion, to repair the product or deliver a new product or part thereof. Compensation for any installation costs incurred shall be determined on a case-by-case basis.

What to do in a warranty situation

Contact the manufacturer by email at sales@tav.fi or by telephone at +358 3 371 2347.

1.7.2017

COUPLING EQUIPMENT FOR DEMANDING CONDITIONS

M. KORTE OY

Menotie 2
FI-33470 YLÖJÄRVI
P. +358 3 371 2347
sales@tav.fi
www.tav.fi

Jarkko Schroderus + 358 50 321 8035
Juha Koskinen + 358 50 595 1233

M. KORTE OY